

# SEARCH REQUEST FORM

119990

Requestor's Name: Travis McElash Serial Number: 10/019,848

Date: 11/21/01 Phone: 272-0657 Art Unit: 1623

Room SC29

Mailbox SC18

## Search Topic:

Please write a detailed statement of search topic. Describe specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples or relevant citations, authors, keywords, etc., if known. For sequences, please attach a copy of the sequence. You may include a copy of the broadest and/or most relevant claim(s).

Please search:

A composition (infant formula) comprising a protein which has a low threonine content (the threonine content is less than 8g threonine / 10g Nucleon), in which the ~~composition~~ comprises:

- a whey component selected from: acid whey protein + sweet whey protein with casein-glyco-macropptide has been removed
- free arginine
- free histidine, and
- free tyrosine, free tryptophan, tryptophan based milk protein, or mixtures thereof

Thanks

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11/22/01  
(110)

## STAFF USE ONLY

Date completed: 04-27-04  
 Searcher: Beverly C 2528  
 Terminal time: 26  
 Elapsed time: \_\_\_\_\_  
 CPU time: \_\_\_\_\_  
 Total time: 38  
 Number of Searches: \_\_\_\_\_  
 Number of Databases: 1

### Search Site

\_\_\_\_ STIC  
 \_\_\_\_ CM-1  
 \_\_\_\_ Pre-S

### Type of Search

\_\_\_\_ N.A. Sequence  
 \_\_\_\_ A.A. Sequence  
 \_\_\_\_ Structure

### Vendors

\_\_\_\_ IG  
☒ STN  
 \_\_\_\_ Dialog  
 \_\_\_\_ APS  
 \_\_\_\_ Geninfo  
 \_\_\_\_ SDC  
 \_\_\_\_ DARC/Questel

10/019848

FILE 'REGISTRY' ENTERED AT 11:54:43 ON 27 APR 2004

L1 E THREONINE/CN 5  
2 S E3  
E ARGININE/CN 5  
L2 2 S E3  
E HISTIDINE/CN 5  
L3 2 S E3  
E WHEY/CN 5  
L4 5 S E3-E5 OR E7 OR E9  
E SWEET WHEY/CN 5  
E "WHEY PROTEINS, SWEET"/CN 5  
L5 1 S E4  
L6 5 S L4 OR L5

FILE 'HCAPLUS' ENTERED AT 11:58:34 ON 27 APR 2004

L1 2 SEA FILE=REGISTRY ABB=ON PLU=ON THREONINE/CN  
L2 2 SEA FILE=REGISTRY ABB=ON PLU=ON ARGININE/CN  
L3 2 SEA FILE=REGISTRY ABB=ON PLU=ON HISTIDINE/CN  
L4 5 SEA FILE=REGISTRY ABB=ON PLU=ON (WHEY/CN OR "WHEY  
ACIDIC PROTEIN (SWINE MAMMARY GLAND PRECURSOR)"/CN OR  
"WHEY ACIDIC PROTEINS"/CN) OR "WHEY PROTEIN (CATTLE  
39-KILODALTON)"/CN OR "WHEY PROTEINS"/CN  
L5 1 SEA FILE=REGISTRY ABB=ON PLU=ON "WHEY PROTEINS, WAP  
(WHEY ACIDIC PROTEIN)"/CN  
L6 5 SEA FILE=REGISTRY ABB=ON PLU=ON L4 OR L5  
L20 11360 SEA FILE=HCAPLUS ABB=ON PLU=ON (L1 OR THR OR THREONINE)  
(L) (L2 OR ARG OR ARGININE)  
L21 4358 SEA FILE=HCAPLUS ABB=ON PLU=ON L20(L) (L3 OR HISTIDINE)  
L32 14 SEA FILE=HCAPLUS ABB=ON PLU=ON L21(L) (L6 OR WHEY)

L32 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ED Entered STN: 16 May 2001

ACCESSION NUMBER: 2001:348373 HCAPLUS

DOCUMENT NUMBER: 135:18895

TITLE: True ileal digestibility of amino acids in sow's  
milk for 17-day-old pigsAUTHOR(S): Mavromichalis, I.; Parr, T. M.; Gabert, V. M.;  
Baker, D. H.CORPORATE SOURCE: Department of Animal Sciences and Division of  
Nutritional Sciences, University of Illinois,  
Urbana, 61801, USASOURCE: Journal of Animal Science (Savoy, IL, United  
States) (2001), 79(3), 707-713  
CODEN: JANSAG; ISSN: 0021-8812

PUBLISHER: American Society of Animal Science

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The digestibility of amino acids in sow's milk consumed by young  
swine is currently unknown because of difficulties associated with  
collecting an adequate quantity of milk, and also problems in  
cannulating suckling swine. A total of 14 kg of sow's milk was  
collected, 2 soluble indigestible markers (Co-EDTA and YbCl3) were  
added, and the milk was fed to 4 swine at 17 d of age that were  
fitted with a simple T-cannula at the terminal ileum. Another 4  
cannulated swine were offered a similar amount of a 20% DM liquid diet

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based on enzymically hydrolyzed casein and lactose to assess endogenous amino acid losses. All swine were fed about 875 g of each diet per day in 10 hourly meals from 0700 to 1700. Following 2 d of adaptation, ileal digesta were collected from 0800 to 1800 for 2 d. Diets and digesta were analyzed for amino acids using appropriate hydrolysis and preoxidn. procedures. Average nitrogen true digestibility was 88%, whereas amino acid true digestibilities ranged from 84% (cystine and **threonine**) to 100% (methionine, **histidine**, and glutamic acid); the average for all amino acids was  $92 \pm 4\%$ . Based on average values, true digestibility of essential amino acids was not different from that of nonessential amino acids ( $P > 0.10$ ). In whole milk, amino acids found in abundance in **whey** proteins (i.e., cystine, glycine, and **threonine**) were less ( $P < 0.05$ ) digestible than amino acids predominating in casein proteins (i.e., glutamic acid, proline, and methionine). When true ileal digestible amino acid concns. in sow's milk were expressed as ratios to digestible lysine, it appeared that **threonine**, tryptophan, and **arginine** were lower than what might be considered optimal. In conclusion, amino acids in sow's milk were highly digestible, but most of the amino acids had true ileal digestibility values significantly less than 100%.

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ED Entered STN: 25 Feb 2001

ACCESSION NUMBER: 2001:136958 HCAPLUS

DOCUMENT NUMBER: 134:177734

TITLE: Composition for an infant formula having a low threonine content

INVENTOR(S): Kratky, Zdenek; Maire, Jean-Claude; Ballevre, Olivier; Haschke, Ferdinand; Jost, Rolf; Kuslys, Martinas; Meister, Niklaus; Secretin, Marie-Christine

PATENT ASSIGNEE(S): Societe des Produits Nestle S.A., Switz.

SOURCE: PCT Int. Appl., 23 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001011990	A1	20010222	WO 2000-EP3887	20000502
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
EP 1048226	A1	20001102	EP 1999-108405	19990429

Searcher : Shears 571-272-2528

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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
PT, IE, SI, LT, LV, FI, RO  
BR 2000010125 A 20020115 BR 2000-10125 20000502  
AU 765986 B2 20031009 AU 2000-47535 20000502  
NO 2001005178 A 20011023 NO 2001-5178 20011023  
PRIORITY APPLN. INFO.: EP 1999-108405 A 19990429  
GB 1999-23048 A 19990929  
WO 2000-EP3887 W 20000502

AB A composition for an infant formula which comprises a low  
**threonine** content; a method of producing the composition; use of  
the composition in the manufacture of a medicament or nutritional product  
for  
addressing the nutritional needs and providing healthy growth of an  
infant; and a method of addressing the nutritional needs and  
providing healthy growth of an infant which comprises administering  
an effective amount of the composition are disclosed. A preferred  
embodiment of the composition comprises all of: 1) acid **whey**  
protein or sweet **whey** protein from which  
caseino-glyco-macropptide has been removed; 2) free  
**arginine**; 3) free **histidine**; and 4) free tyrosine  
or free tryptophan or tryptophan rich milk protein or a mixture  
thereof.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN  
THE RE FORMAT

L32 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ED Entered STN: 05 Nov 2000

ACCESSION NUMBER: 2000:773864 HCAPLUS

DOCUMENT NUMBER: 133:321220

TITLE: Infant formula containing sweet whey protein

INVENTOR(S): Kratky, Zdenek; Maire, Jean-claude

PATENT ASSIGNEE(S): Societe Des Produits Nestle S.A., Switz.

SOURCE: Eur. Pat. Appl., 9 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1048226	A1	20001102	EP 1999-108405	19990429
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
WO 2001011990	A1	20010222	WO 2000-EP3887	20000502
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
BR 2000010125	A	20020115	BR 2000-10125	20000502
AU 765986	B2	20031009	AU 2000-47535	20000502

Searcher : Shears 571-272-2528

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ZA 2001008412	A	20030113	ZA 2001-8412	20011012
NO 2001005178	A	20011023	NO 2001-5178	20011023
PRIORITY APPLN. INFO.:			EP 1999-108405	A 19990429
			GB 1999-23048	A 19990929
			WO 2000-EP3887	W 20000502

AB An infant formula which contains a lipid source, a carbohydrate source, and a protein source. The protein source contains the free amino acids **arginine**, tyrosine, and **histidine** and a hydrolyzed sweet **whey** fraction from which caseino-glyco-macropeptide has been removed. The infant formula is low in **threonine** and high in tryptophan. The infant formula may be a pre-term formula or a full-term hypoallergenic formula.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ED Entered STN: 01 Nov 1992

ACCESSION NUMBER: 1992:570024 HCAPLUS

DOCUMENT NUMBER: 117:170024

TITLE: Tryptophan fortification of adapted formula increases plasma tryptophan concentrations to levels not different from those found in breast-fed infants

AUTHOR(S): Fazzolari-Nesci, A.; Domianello, D.; Sotera, V.; Raeihae, N. C. R.

CORPORATE SOURCE: Dep. Obstet. Gynecol., Univ. Palermo, Palermo, Italy

SOURCE: Journal of Pediatric Gastroenterology and Nutrition (1992), 14(4), 456-9  
CODEN: JPGND6; ISSN: 0277-2116

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Several recent studies have demonstrated significantly lower plasma total tryptophan concns. in formula-fed than in breast-fed infants. Preprandial plasma amino acid concns. were measured in infants breast-fed or fed a formula with a protein concentration of 1.57 g/dL and with a **whey**/casein ratio of 60:40 or a formula with a protein concentration of 1.37 g/dL and a **whey**/casein ratio of 40:60 and fortified with 10 mg/dL (15 mg/100 kcal) tryptophan. Healthy term infants (10 per group) were either breast-fed from birth or randomly assigned to 1 of the 2 study formulas. At 4 and 12 wk of age, anthropometric measurements were performed and blood samples were obtained. During the study period of 12 wk, all infants showed normal growth (weight, length, and head circumference) and there were no statistically significant differences between the groups. The plasma concns. of the essential amino acids phenylalanine, **threonine**, valine, and lysine were significantly lower in the breast-fed group than in both formula-fed groups. For tyrosine, methionine, leucine, **histidine**, isoleucine, and **arginine**, no significant differences could be found between the feeding groups. Concentration of total plasma tryptophan was significantly higher in the breast-fed group than in the group fed the tryptophan-unfortified formula, but no statistically significant difference could be found between the

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plasma tryptophan concentration in the breast-fed group vs. the group fed the tryptophan-fortified formula. The results indicate that tryptophan fortification of adapted formula is necessary to achieve plasma total tryptophan concns. similar to those found in breast-fed infants. The data also confirm that a formula with reduced protein concentration will support normal growth and will produce a plasma amino acid profile not much different from that of a conventional type of formula.

L32 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ED Entered STN: 19 Aug 1988

ACCESSION NUMBER: 1988:453720 HCAPLUS

DOCUMENT NUMBER: 109:53720

TITLE: Protein and energy intake during weaning. III. Effects on plasma amino acids

AUTHOR(S): Axelsson, I.; Borulf, S.; Abildskov, K.; Heird, W.; Raeihae, N.

CORPORATE SOURCE: Dep. Paediatr., Univ. Lund, Malmoe, 21401, Swed.  
SOURCE: Acta Paediatrica Scandinavica (1988), 77(1), 42-8

CODEN: APSVAM; ISSN: 0001-656X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Preprandial plasma amino acid concns. were measured at 5 and 6 mo of age in 30 healthy term infants who were either breast-fed ad libitum or fed 1 of 2 different formulas (1.9 g protein/100 mL with a **whey**:casein ratio of 50:50 or 2.9 g protein/100 mL with a **whey**:casein ratio of 20:80) ad libitum, plus the same supplementary food regimen. The mean plasma concns. of total amino acids and especially total essential amino acids were higher in the formula-fed infants. Those fed formula also had plasma concns. of methionine, isoleucine, phenylalanine, leucine, valine, **threonine**, aspartate, proline, lysine, tyrosine, and **histidine** that exceeded plasma concns. of breast-fed infants by 2 or more standard deviations. Concns. of **arginine**, glutamic acid, glutamine, ornithine, serine, and cystine did not differ and taurine was higher in the breast-fed infants. The data indicate that formulas in common use today during weaning (4-6 mo) provide excessive protein intakes when compared to the breast-fed control infants. A lowering of protein concentration and a further manipulation of the **whey**:casein ratio is necessary if plasma amino acid patterns similar to those found in breast-fed infants are to be achieved with artificial feeding.

L32 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ED Entered STN: 13 May 1988

ACCESSION NUMBER: 1988:166281 HCAPLUS

DOCUMENT NUMBER: 108:166281

TITLE: In vitro digestibility of thermally processed diafiltered whey as influenced by water activity

AUTHOR(S): Desrosiers, T.; Bergeron, G.; Savoie, L.

CORPORATE SOURCE: Fac. Sci. Agric. Aliment., Univ. Laval, Ste-Foy, QC, G1K 7P4, Can.

SOURCE: Journal of Dairy Science (1987), 70(12), 2476-85

CODEN: JDSCAE; ISSN: 0022-0302

DOCUMENT TYPE: Journal

10/019848

LANGUAGE: English

AB Diafiltered **whey** protein concs. of varying water activity were heated at 121° for 83.3 min (5000 s). N and amino acid digestibilities were determined by the digestion cell technique. **Whey** N digestibility significantly decreased only at a water activity of 0.97. Although this heat treatment did not affect the amino acid profile of the protein, the relative digestibility of most amino acids was slightly increased at a water activity of 0.3 but relative digestibility decreased at a water activity of 0.5 and 0.97. At a water activity of 0.7, digestibility slightly increased for aspartic acid, **threonine**, glutamic acid, proline, cysteine, isoleucine, **histidine**, and **arginine** and decreased or remained unchanged for the other amino acids. At a water activity of 0.97, the relative digestibility of aspartic acid, **threonine**, serine, glutamic acid, glycine isoleucine, leucine, and phenylalanine decreased significantly. Water activity plays a role in the structural organization of heated **whey**, which in turn affects the enzymic liberation of amino acids.

L32 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN  
ED Entered STN: 12 May 1984  
ACCESSION NUMBER: 1984:21783 HCAPLUS  
DOCUMENT NUMBER: 100:21783  
TITLE: Digestible milk formula  
PATENT ASSIGNEE(S): Meiji Seika Kaisha, Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 58165742	A2	19830930	JP 1982-46275	19820325
JP 03035896	B4	19910529		

PRIORITY APPLN. INFO.: JP 1982-46275 19820325  
AB A highly digestible formula for infants is formulated from casein or its salts 24-32, **whey** powder 30-40, L-isoleucine [73-32-5] 2.2-3.0, L-leucine [61-90-5] 8.5-11.3, L-methionine [63-68-3] 0.3-0.4, L-cystine [56-89-3] 2.4-3.2, L-phenylalanine [63-91-2] 2.7-3.7, L-tyrosine [60-18-4] 2.7-3.7, L-**threonine** [72-19-5] 3.0-4.0, L-tryptophan [73-22-3] 0.5-0.7, L-valine [72-18-4] 4.0-5.4, L-**arginine** [74-79-3] 3.9-5.3, and L-**histidine** [71-00-1] 1.4-2.0 parts.

L32 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN  
ED Entered STN: 12 May 1984  
ACCESSION NUMBER: 1980:196553 HCAPLUS  
DOCUMENT NUMBER: 92:196553  
TITLE: Identification of amino acids liberated during ripening of cheese pickled in different salt concentrations  
AUTHOR(S): Rakshy, S. E. S. E.; Attia, I.  
CORPORATE SOURCE: Fac. Agric., Univ. Alexandria, Alexandria, Egypt

Searcher : Shears 571-272-2528

10/019848

SOURCE: Alexandria Journal of Agricultural Research  
(1979), 27(2), 369-74

CODEN: AAGRAF; ISSN: 0044-7250

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Paper chromatog. was successfully used for the determination of free amino acids during pickling of white brined cheese made from cow and buffalo milk. A significant difference in the amino acid content between fresh and pickled cheese was found. In fresh cow milk cheese, **arginine** [74-79-3], **histidine** [71-00-1], isoleucine [73-32-5], lysine [56-87-1], methionine [63-68-3], proline [147-85-3], and valine [72-18-4] were not detected. Alanine [56-41-7], **arginine**, leucine [61-90-5], methionine, phenylalanine [63-91-2], proline, **threonine** [72-19-5], tryptophan [73-22-3], and valine were absent in fresh buffalo milk cheese. By the end of the pickling period, the cheese had decreased free amino acid content, owing to diffusion into the **whey** or metabolism. Free amino acid and salt contents were inversely related.

L32 ANSWER 9 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ED Entered STN: 12 May 1984

ACCESSION NUMBER: 1980:4771 HCAPLUS

DOCUMENT NUMBER: 92:4771

TITLE: The amino acid composition of the protein of commercial defatted milk powder in comparison with the protein of fresh milk, casein and whey  
AUTHOR(S): De Lange, D. J.; Smit, A. J.; Cilliers, J. J. le R.; Ireland, J. P.

CORPORATE SOURCE: Anim. Dairy Sci. Res. Inst., Irene, 1675, S. Afr.

SOURCE: South African Journal of Dairy Technology  
(1979), 11(2), 43-8

CODEN: SAJDAG; ISSN: 0379-6027

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The amino acids in milk proteins were determined by hydrolysis of TCA-precipitated proteins with 6N HCl at 150° for 4 h, cleanup on a column of Dowex 50W-X4 (120 mesh, eluting with NH<sub>4</sub>OH), formation of the N(O)-heptafluorobutyl iso-Bu ester derivs. of the amino acids, gas chromatog. on a column of 3% SP-2100 on Chromosorb W-HP with N at 40 mL/min. BHT was added before derivative formation to prevent oxidation of methionine and **histidine**, and a specific amount of di-Et pyrocarbonate was added to form a stable N-carbethoxy **histidine** derivative without interfering with **arginine** resolution. The percentage of individual amino acids in protein was tabulated for dry milk, milk, casein, and **whey**. The **histidine** [71-00-1] content was highest in milk; valine [72-18-4], isoleucine [73-32-5], and tyrosine [60-18-4] were highest in dry milk; serine [56-45-1], proline [147-85-3], methionine [63-68-3], phenylalanine [63-91-2], glutamic acid [56-86-0], and **arginine** [74-79-3] were highest in casein; and alanine [56-41-7], glycine [56-40-6], **threonine** [72-19-5], leucine [61-90-5], aspartic acid [56-84-8], lysine [56-87-1], and cystine [56-89-3] were highest in **whey** protein.

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L32 ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ED Entered STN: 12 May 1984

ACCESSION NUMBER: 1977:138175 HCAPLUS

DOCUMENT NUMBER: 86:138175

TITLE: Nutritional composition of sweet- and acid-type dry wheys. I. Major factors including amino acids

AUTHOR(S): Glass, L.; Hedrick, T. I.

CORPORATE SOURCE: Dep. Food Sci. Hum. Nutr., Michigan State Univ., East Lansing, MI, USA

SOURCE: Journal of Dairy Science (1977), 60(2), 185-9  
CODEN: JDSCAE; ISSN: 0022-0302

DOCUMENT TYPE: Journal

LANGUAGE: English

AB At monthly intervals for a year, com. sweet- and acid-type dry whey samples from 12-15 plants in various geog. areas were analyzed. The means for sweet- and acid-type wheys were: lactose 69.4 and 63.2, total protein 13.0 and 11.7, nonprotein N 0.50 and 0.58, total ash 8.3 and 10.6, fat 1.03 and 0.48, moisture 5.0 and 6.2 (toluene method), 3.0 and 3.1 (vacuum oven), 3.7 and 4.6 (Karl Fischer titration), and acidity 0.10 and 0.39%. The amino acids means (g/100 g of protein) were: lysine 8.8 and 10.3, histidine 2.0 and 2.3, arginine 2.6 and 2.8, tryptophan 2.4 and 2.4, aspartic acid 10.2 and 10.2, threonine 6.8 and 4.9, serine 5.3 and 4.7, glutamic acid 18.0 and 18.4, proline 6.9 and 6.4, glycine 1.9 and 1.7, alanine 4.6 and 4.1, cystine 2.3 and 2.2, valine 5.9 and 5.2, methionine 1.8 and 1.8, isoleucine 5.9 and 5.4, leucine 10.3 and 10.5, tyrosine 2.7 and 3.1, and phenylalanine 3.5 and 3.7.

L32 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ED Entered STN: 12 May 1984

ACCESSION NUMBER: 1973:41725 HCAPLUS

DOCUMENT NUMBER: 78:41725

TITLE: Amino acid composition of whey proteins of commercial milk

AUTHOR(S): Agababyan, A.; Dilanyan, Z.; Zakharyan, L.

CORPORATE SOURCE: USSR

SOURCE: Sb. Dokl., Mezhevuz. Konf. Moloch. Delu (1971), 33-8

DOCUMENT TYPE: From: Ref. Zh., Khim. 1971, Abstr. No. 21R192  
Conference

LANGUAGE: Russian

AB Samples of whey proteins at 12 butter-cheese plants were studied. The content of individual amino acids changes with the month of year; the difference between the greatest and least amts. for histidine is 1.8-fold, for glycine 1.7-fold, for arginine, aspartic acid, and alanine 1.6-fold, for tyrosine 1.5-fold, and for serine, threonine, and phenylalanine 1.4-fold. Spring milk has the greatest amount of amino acids, followed by summer, winter, and fall in that order (84.6, 81.3, 80.6, and 80.1%, resp.).

L32 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ED Entered STN: 12 May 1984

Searcher : Shears 571-272-2528

10/019848

ACCESSION NUMBER: 1971:487242 HCAPLUS  
DOCUMENT NUMBER: 75:87242  
TITLE: Testing of leavens in the production of  
sulugun-type cheese  
AUTHOR(S): Lomsadze, R. N.; Demurishvili, L. I.  
CORPORATE SOURCE: Tbilis. Otd., Vses. Nauchno-Issled. Inst.  
Malochn. Prom., Moscow, USSR  
SOURCE: Molochnaya Promyshlennost (1971), 32(6), 20-2  
CODEN: MOPRAI; ISSN: 0026-9026  
DOCUMENT TYPE: Journal  
LANGUAGE: Russian

AB Lactobacillus helveticus, L. bulgaricus, and Streptomyces thermophilus, were used sep. or combined as leavens in various rations for the production of sulugun-type cheese. Milk, pasteurized at 71-2°, was poured into 2 tanks, and cooled to 32°. Into one tank were added 1% of combined leavens containing various strains of L. bulgaricus and S. thermophilus, and into another tank were added leavens for fine grain cheese. Maturing of cheese in **whey** was conducted at 35-7° and 30-2°, resp., until reaching the pH value 5.2-5.3. After cheese formation, and self-pressing, products were placed in acid-**whey** brine containing 16% NaCl at 12°. Microbiol. and biochem. processes during the cheese maturation were studied by usual methods. It was found that an addition of combined, leavens considerably activated fermentation of cheese (30-50 min shorter), increased it's taste, and aroma, and increased by 8.56 mg % the content of free amino acids such as lysine, **histidine**, **arginine**, aspartic acid glutamic acids, serine, glycine, **threonine**, alanine,  $\gamma$ -aminobutyric acid, tyrosine, and valine + methionine. The contents of phenylalanine, and leucine + isoleucine in prepared cheese were much lower.

L32 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ED Entered STN: 22 Apr 2001

ACCESSION NUMBER: 1954:1624 HCAPLUS  
DOCUMENT NUMBER: 48:1624  
ORIGINAL REFERENCE NO.: 48:298a-c  
TITLE: Determination of amino acid composition of  
casein and albumin by the paper chromatography  
method  
AUTHOR(S): Chebotarev, A.  
CORPORATE SOURCE: Dairy Inst., Vologda  
SOURCE: Molochnaya Promyshlennost (1953), 14(No. 9),  
36-8  
CODEN: MOPRAI; ISSN: 0026-9026  
DOCUMENT TYPE: Journal  
LANGUAGE: Unavailable

AB The separation is described of amino acids from hydrolyzates of casein precipitated with acid (I) and rennet (II), and the rennet-**whey** albumin (III), by means of two-dimensional paper chromatography. Rf values of ninhydrin reactive amino acids in aqueous PhOH, BuOH-AcOH, and PhOH + 0.1% NH4OH, and the photo-views of chromatograms of I, II, and III are given. They contain glutamic acid, aspartic acid, cystine, serine (not visible on I), glycine, **threonine**, alanine, **histidine**, **arginine**, valine, leucine or isoleucine, proline, phenylalanine, lysine (not visible on I and

Searcher : Shears 571-272-2528

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II), tyrosine, and methionine sulfone. Tryptophan was determined by one-dimensional chromatography.

L32 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ED Entered STN: 22 Apr 2001

ACCESSION NUMBER: 1948:27697 HCAPLUS

DOCUMENT NUMBER: 42:27697

ORIGINAL REFERENCE NO.: 42:5949b-d

TITLE: The inhibitional requirements of Lactobacillus pentosus 124-2

AUTHOR(S): Krueger, Keatha K.; Peterson, W. H.

CORPORATE SOURCE: Univ. of Wisconsin, Madison

SOURCE: Journal of Bacteriology (1948), 55, 683-92

CODEN: JOBAAY; ISSN: 0021-9193

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB The nutritional requirements of Lactobacillus pentosus 124-2 were investigated. Biotin, pantothenic acid, and nicotinic acid are needed to satisfy its vitamin requirements. No chemically defined medium gave so rapid a growth as did a natural medium. One of the best media, hydrolyzed casein, required some addition of these vitamins but glutamine, glutathione, streptogenin, Wilson's liver B, a **whey** preparation, and a peptone preparation had no effect. An aqueous extract of malt sprouts caused marked stimulation. The nature of the stimulatory factor is unknown. The omission of valine, leucine, isoleucine, glutamic acid, or phenylalanine from an adequate medium containing 20 amino acids prevented the growth of L. pentosus 124-2. Maximum growth did not occur on the single omission of cystine, **threonine**, or alanine. However, it was necessary for tryptophan, **arginine**, aspartic acid, lysine, **histidine**, tyrosine, serine, proline, and methionine to be also present if growth was to be near that possible on a "natural" medium. 18 references.

(FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO, FSTA, AGRICOLA, CABA, FROSTI' ENTERED AT 12:16:00 ON 27 APR 2004)

L33 60 S L32

L34 37 DUP REM L33 (23 DUPLICATES REMOVED)

L34 ANSWER 1 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER: 2003-449189 [42] WPIDS

DOC. NO. CPI: C2003-119211

TITLE: Ingestible composition for treating post-illness wasting phenomena in animals including humans comprises glutamine, taurine, vitamin E, vitamin C and zinc.

DERWENT CLASS: B05 B07 C03 C07

INVENTOR(S): BACHMAN, S E; GALYEAN, M L; HUBBERT, M E

PATENT ASSIGNEE(S): (GANA-N) GANADO RES LLC

COUNTRY COUNT: 101

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2003033020	A1	20030424	(200342)*	EN	20

Searcher : Shears 571-272-2528

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RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE  
LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW  
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ  
DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ  
NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ  
UA UG US UZ VC VN YU ZA ZM ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2003033020	A1	WO 2002-US33061	20021017

PRIORITY APPLN. INFO: US 2001-329938P 20011017

AN 2003-449189 [42] WPIDS

AB WO2003033020 A UPAB: 20030703

NOVELTY - An ingestible composition for animals including humans comprises glutamine, taurine, vitamin E, vitamin C and zinc.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method to treat post-illness wasting phenomenon in animals comprising administering a paste comprising glutamine, taurine, vitamin E, vitamin C and zinc.

ACTIVITY - Veterinary.

Test details are described but no results given.

MECHANISM OF ACTION - None given in source material.

USE - The composition is useful for treating post-illness wasting phenomenon in animals including humans (claimed). The composition is also useful for facilitating expulsion of hair balls from cats.

Dwg.0/0

L34 ANSWER 2 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER: 2003-899128 [82] WPIDS

DOC. NO. CPI: C2003-255638

TITLE: Food product useful for reducing weight and delivery of nutrient and pharmaceutical supplements comprises a high content of carrageenan and a low liquid content.

DERWENT CLASS: A97 B05 D13

INVENTOR(S): CALTON, G J; WOOD, L L

PATENT ASSIGNEE(S): (CALT-I) CALTON G J; (WOOD-I) WOOD L L

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2003185876	A1	20031002	(200382)*		5

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2003185876	A1 Cont of	US 2000-698438	20001027
		US 2003-421093	20030423

Searcher : Shears 571-272-2528

10/019848

PRIORITY APPLN. INFO: US 2000-698438 20001027; US  
2003-421093 20030423

AN 2003-899128 [82] WPIDS

AB US2003185876 A UPAB: 20031223

NOVELTY - A food product comprises at least one carrageenan and a liquid (less than 50 %). The carrageenan is present in at least 5 weight% of the food product.

ACTIVITY - Laxative; Anorectic.

MECHANISM OF ACTION - None given.

USE - For relieving constipation, reducing weight and delivering pharmaceutical supplements in humans (claimed). Also useful for delivering nutrients in humans. The pharmaceutical supplements include vitamins, proteins, amino acids.

ADVANTAGE - The food product has lower amount of liquid than prior art nutrient food product and can be easily formulated into a candy or a bar. The food product is safe and storage stable under normal conditions for extended time periods. The food product can be easily ingested and provides a filled feeling when ingested with water. This satisfaction of hunger due to ingestion of the food product results in a weight loss as the caloric value of the food product is low. The food product relieves constipation as it provides easily ingestible non-digestible, dietary fiber, which can have an effect on the movement of food through the bowel providing a soft stool, which is easily voided.

Dwg.0/0

L34 ANSWER 3 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN .

ACCESSION NUMBER: 2003-645569 [61] WPIDS

DOC. NO. CPI: C2003-176413

TITLE: Infant formula composition, e.g. milk, is used to replace or to supplement human milk for infant less than one year old, comprises whey fraction with higher percentage of alpha-lactalbumin than beta-lactoglobulin.

DERWENT CLASS: D13

INVENTOR(S): KUHLMAN, C F; LIEN, E; O'CALLAGHAN, D; WEABER, J;  
LIEN, E L; O'CALLAGHAN, D M; WEABER, J R

PATENT ASSIGNEE(S): (AMHP) WYETH

COUNTRY COUNT: 101

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG															
US 2003124237	A1	20030703	(200361)*		9															
WO 2003055322	A1	20030710	(200361)	EN																
RW:	AT	BE	BG	CH	CY	CZ	DE	DK	EA	EE	ES	FI	FR	GB	GH	GM	GR	IE	IT	KE
	LS	LU	MC	MW	MZ	NL	OA	PT	SD	SE	SI	SK	SL	SZ	TR	TZ	UG	ZM	ZW	
W:	AE	AG	AL	AM	AT	AU	AZ	BA	BB	BG	BR	BY	BZ	CA	CH	CN	CO	CR	CU	CZ
	DE	DK	DM	DZ	EC	EE	ES	FI	GB	GD	GE	GH	GM	HR	HU	ID	IL	IN	IS	JP
	KE	KG	KP	KR	KZ	LC	LK	LR	LS	LT	LU	LV	MA	MD	MG	MK	MN	MW	MX	MZ
	NO	NZ	OM	PH	PL	PT	RO	RU	SD	SE	SG	SK	SL	TJ	TM	TN	TR	TT	TZ	UA
	UG	UZ	VC	VN	YU	ZA	ZM	ZW												
AU 2002357354	A1	20030715	(200421)																	

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APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2003124237	A1 Provisional	US 2001-343253P	20011221
		US 2002-318977	20021213
WO 2003055322	A1	WO 2002-US40811	20021218
AU 2002357354	A1	AU 2002-357354	20021218

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2002357354	A1 Based on	WO 2003055322

PRIORITY APPLN. INFO: US 2001-343253P 20011221; US  
2002-318977 20021213

AN 2003-645569 [61] WPIDS

AB US2003124237 A UPAB: 20030923

NOVELTY - An infant formula composition comprises whey fraction in which at most 40% of the total protein in the whey fraction is alpha-lactalbumin and more than 8% of the total protein is beta-lactoglobulin. The percentage of alpha-lactalbumin is greater than that of the beta-lactoglobulin.

USE - The infant formula composition, e.g. milk, is used to replace or to supplement human milk to infant less than one year old (claimed), when breast-feeding is inadequate, unsuccessful, or when mother chooses not to breast-feed.

ADVANTAGE - The inventive infant formula composition demonstrates improved tolerance by infants and is considered nutritionally complete infant formula. It has an amino acid profile composition that does not require addition of added essential amino acids to meet or exceed European Union standards for amino acids in infant formula. The amino acid profile permits a reduction in total protein concentration to 2.1 g/100 kcal, which is closer to the total protein concentration in human milk. It contains protein that exceeds United States Formula Act. It contains alpha-lactalbumin found in human milk, and long-chain omega-3 and omega-6 polyunsaturated fatty acids at desirable levels.  
Dwg.0/0

L34 ANSWER 4 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER: 2003-588724 [56] WPIDS

DOC. NO. CPI: C2003-159699

TITLE: Protein powder containing edible natural protein components, useful in human and animal nutrition, comprises synthetic and/or natural amino-acid(s) and protein powder of defined energy to suit individual requirements.

DERWENT CLASS: B07 D13 E19

INVENTOR(S): BECKER, E; HOEFER, R

PATENT ASSIGNEE(S): (BECK-I) BECKER E

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
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Searcher : Shears 571-272-2528

10/019848

DE 10155746 A1 20030703 (200356)\* 15

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 10155746	A1	DE 2001-10155746	20011224

PRIORITY APPLN. INFO: DE 2001-10155746 20011224

AN 2003-588724 [56] WPIDS

AB DE 10155746 A UPAB: 20030903

NOVELTY - Protein powder, containing edible natural protein components disposed over a natural amino-acid spectrum. The powder also contains certain synthetic and/or natural amino-acid(s) and protein powder of accurately defined energy, determined on the basis of the decisive load for nutrition and/or use, to attain an energy and/or protein supply exactly suited to the individual.

ACTIVITY - Anabolic; Anorectic.

No biological data given.

MECHANISM OF ACTION - None given.

USE - The protein powder is used in animals (claimed) and in human nutrition, e.g. for those who are over- or under-weight, subject to heavy physical work, have high stress profiles or take part in sports or particular activities.

ADVANTAGE - Preventive, health-maintaining and growth-promoting nutrition and formulations of various amino-acids in optimized amounts, suited to various groups, can be produced cost-effectively. Dwg.0/0

L34 ANSWER 5 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER: 2003-093196 [08] WPIDS

DOC. NO. CPI: C2003-023441

TITLE: Use of two essential amino acids in free or salt form or protein for the manufacture of a medicament/nutritional formulation for the restoration of normal physiological levels of estrogen in premenopausal woman e.g. amenorrhea.

DERWENT CLASS: B04 B05 D13 E19

INVENTOR(S): AMMANN, P; BONJOUR, J; RIZZOLI, R

PATENT ASSIGNEE(S): (NOVS) NOVARTIS NUTRITION AG

COUNTRY COUNT: 89

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002087562	A1	20021107	(200308)*	EN	27
RW: AT BE CH CY DE DK EA ES FI FR GB GR IE IT LU MC NL PT SE TR					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ					
DE DK DM DZ EC EE ES FI GB GD GE GH HR HU ID IL IN IS JP KE					
KG KP KR KZ LC LK LT LU LV MA MD MK MN MX NO NZ OM PH PL PT					
RO RU SE SG SI SK TJ TM TN TR TT UA UG US UZ VN YU ZA ZW					
EP 1392275	A1	20040303	(200417)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK					
NL PT RO SE SI TR					

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002087562	A1	WO 2002-EP4615	20020425
EP 1392275	A1	EP 2002-766638	20020425
		WO 2002-EP4615	20020425

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
EP 1392275	A1 Based on	WO 2002087562

PRIORITY APPLN. INFO: GB 2001-10288 20010426

AN 2003-093196 [08] WPIDS

AB WO 200287562 A UPAB: 20030204

NOVELTY - In the manufacture of a medicament or nutritional formulation comprising at least two essential amino acids (A) for the restoration of normal physiological levels of estrogen in a premenopausal woman suffering from malnourishment.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for restoring normal physiological levels of estrogen in a pre-menopausal woman suffering from malnourishment, which is indicated when the woman has a BMI of less than 20, a body fat content of less than 17% and/or serum leptin concentration of less than 5 ng/ml involving altering the diet of the woman by increasing the proportion of protein relative to the sum of carbohydrate and fat, as a percentage of total calories, in the diet, or administering a nutritional formulation or medicament comprising protein (B) such that the protein content of the diet is at least 20 or 25 (preferably at least 30) en (energy)%.

ACTIVITY - Osteopathic; Gynecological; Estrogenic.

MECHANISM OF ACTION - None given.

USE - For the prevention or treatment of amenorrhea, oligomenorrhea or erratic menstruation when especially caused by malnourishment. For the prevention or treatment of osteopenia or osteoporosis in premenopausal women suffering from the above. For the restoration of normal physiological levels of estrogen, the prevention or reversal of weight loss and/or loss of muscle mass in premenopausal women suffering from malnourishment caused by eating disorder, over exercise and/or starvation.

ADVANTAGE - By using the composition, the proportion of protein in the diet is increased to at least 25 en%, optionally to at least 30 en %. The overall caloric value of the diet is unchanged. (A) or (B) reverses the metabolic effects of malnourishment which leads to a decrease in body weight interfere with estrogen secretion in women causing deleterious effects on bone density and on the menstrual cycle. (A) or (B) improves blood estrogen levels and its impact on calcium deposition in the bone, and the target group of malnourished and undernourished women is small. (A) or (B) provides a simple yet practical way of helping these women return to health.  
Dwg.0/0



10/019848

ACCESSION NUMBER: 2002-405310 [43] WPIDS  
 CROSS REFERENCE: 2002-405309 [43]  
 DOC. NO. CPI: C2002-113853  
 TITLE: Protein hydrolysates useful for improving the  
 flavor of a food and in personal care applications  
 are obtained by hydrolysis using specified enzyme  
 combinations forming free amino acids and peptides.  
 D13 E19  
 DERWENT CLASS:  
 INVENTOR(S): DELEST, V; EDENS, L; KORTES, J G; NAEYE, T J  
 PATENT ASSIGNEE(S): (STAM) DSM NV; (STAM) DSM IP ASSETS BV; (DELE-I)  
 DELEST V; (EDEN-I) EDENS L; (KORT-I) KORTES J G;  
 (NAEY-I) NAEYE T J  
 COUNTRY COUNT: 98  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002032232	A2	20020425	(200243)*	EN	46
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2002015961	A	20020429	(200255)		
EP 1337157	A2	20030827	(200357)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					
US 2004067279	A1	20040408	(200425)		
JP 2004511241	W	20040415	(200426)		86

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002032232	A2	WO 2001-EP12104	20011017
AU 2002015961	A	AU 2002-15961	20011017
EP 1337157	A2	EP 2001-987625	20011017
		WO 2001-EP12104	20011017
US 2004067279	A1	WO 2001-EP12104	20011017
		US 2003-399485	20031016
JP 2004511241	W	WO 2001-EP12104	20011017
		JP 2002-535482	20011017

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2002015961	A Based on	WO 2002032232
EP 1337157	A2 Based on	WO 2002032232
JP 2004511241	W Based on	WO 2002032232

PRIORITY APPLN. INFO: WO 2000-EP10345 20001019  
 AN 2002-405310 [43] WPIDS  
 CR 2002-405309 [43]

Searcher : Shears 571-272-2528

AB WO 200232232 A UPAB: 20040421

NOVELTY - A protein hydrolysate obtained by enzymatic hydrolysis of a protein-containing substrate comprises free amino acids and peptides. The molar fraction of 1 or more free amino acid(s) in the hydrolysate is at least a factor of 2.5 times higher than that of the same protein-containing substrate that has been hydrolyzed to free amino acids.

DETAILED DESCRIPTION - A protein hydrolysate obtained by enzymatic hydrolysis of a protein-containing substrate comprises free amino acids and peptides. The molar fraction of 1 or more free amino acid(s) in the hydrolysate is at least a factor of 2.5 (preferably 3 or more, especially 3.5 or more) times higher than that of the same protein-containing substrate that has been hydrolyzed to free amino acids. The molar fraction of this free amino acid is 25% or more. The amino acid quotient (AAQ) in the hydrolysate is 10% or more.

An INDEPENDENT CLAIM is also included for preparation of the hydrolysate in aqueous conditions at 5-75 deg. C and pH 3-9 such that the combined action of the proteases releases 1 or more free amino acid(s) from the substrate.

USE - The protein hydrolysate is useful for improving the flavor of a variety of food compositions (claimed). It is also useful in personal care applications.

ADVANTAGE - Hydrolysates with a variety of amino acid profiles (for producing different flavors) may be obtained using specific substrates.

Dwg.0/0

L34 ANSWER 7 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN  
 ACCESSION NUMBER: 2002-405309 [43] WPIDS  
 CROSS REFERENCE: 2002-405310 [43]  
 DOC. NO. CPI: C2002-113852  
 TITLE: Protein hydrolysates, useful for improving the flavor of food and in personal care applications, are obtained by hydrolysis using specified enzyme combinations forming free amino acids and peptides.  
 DERWENT CLASS: D13 E19  
 INVENTOR(S): DELEST, V; EDENS, L; KORTES, J G; NAEYE, T J  
 PATENT ASSIGNEE(S): (STAM) DSM NV  
 COUNTRY COUNT: 94  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002032231	A1	20020425	(200243)*	EN	49
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE					
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG					
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ					
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN					
YU ZA ZW					
AU 2001011420	A	20020429	(200255)		

APPLICATION DETAILS:

10/019848

PATENT NO	KIND	APPLICATION	DATE
WO 2002032231	A1	WO 2000-EP10345	20001019
AU 2001011420	A	WO 2000-EP10345	20001019
		AU 2001-11420	20001019

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001011420	A Based on	WO 2002032231

PRIORITY APPLN. INFO: WO 2000-EP10345 20001019

AN 2002-405309 [43] WPIDS

CR 2002-405310 [43]

AB WO 200232231 A UPAB: 20020829

NOVELTY - A protein hydrolysate obtained by enzymatic hydrolysis of a protein-containing substrate comprises free amino acids and peptides. The molar fraction of 1 or more free amino acids in the hydrolysate is at least a factor of 2.5 times higher than that of the same protein-containing substrate that has been hydrolyzed to free amino acids.

DETAILED DESCRIPTION - A protein hydrolysate obtained by the enzymatic hydrolysis of a protein-containing substrate comprises free amino acids and peptides. The molar fraction of 1 or more free amino acids in the hydrolysate is at least a factor of 2.5 (preferably 3 or more, especially 3.5 or more) times higher than that of the same protein-containing substrate that has been hydrolyzed to free amino acids. The molar fraction of this free amino acid is 25% or more. The amino acid quotient (AAQ) in the hydrolysate is 10% or more.

An INDEPENDENT CLAIM is also included for preparation of the hydrolysate in aqueous conditions at 5-75 deg. C and pH 3-9 such that the combined action of the proteases releases 1 or more free amino acids from the substrate.

USE - The protein hydrolysate is useful for improving the flavor of a variety of food compositions (claimed). It is also used in personal care applications.

ADVANTAGE - Hydrolysates with a variety of amino acid profiles (for producing different flavors) may be obtained using specific substrates

Dwg.0/0

L34 ANSWER 8 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER: 2002-255591 [30] WPIDS

CROSS REFERENCE: 2000-292965 [25]; 2001-388872 [41]

DOC. NO. CPI: C2002-076197

TITLE: Providing nutrition to critical care animals such as dogs or cats, by administering artificially produced canine or feline milk substitute composition comprising specified percentage of protein, fat and carbohydrates.

DERWENT CLASS: B04 C03 D13

INVENTOR(S): LEPINE, A J

PATENT ASSIGNEE(S): (LEPI-I) LEPINE A J

COUNTRY COUNT: 1

Searcher : Shears 571-272-2528

10/019848

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2002018828	A1	20020214	(200230)*		8

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2002018828	A1 CIP of	US 1998-163778	19980930
	Cont of	US 1999-362401	19990728
		US 2001-829168	20010409

FILING DETAILS:

PATENT NO	KIND	PATENT NO
US 2002018828	A1 Cont of	US 6245379

PRIORITY APPLN. INFO: US 1999-362401 19990728; US  
 1998-163778 19980930; US  
 2001-829168 20010409

AN 2002-255591 [30] WPIDS  
 CR 2000-292965 [25]; 2001-388872 [41]  
 AB US2002018828 A UPAB: 20021120

NOVELTY - A method for providing nutrition (M) to critical care canines and felines involves administering an artificially produced canine or feline milk substitute composition (I).

DETAILED DESCRIPTION - A method for providing nutrition to a critical care canine or feline comprises administration of artificially produced canine milk substitute composition or feline milk substitute composition (I), respectively. The canine milk substitute composition comprises on a dry matter basis, from about 35-45% protein, 25-35% fat, and 10-25% carbohydrates. The feline milk substitute composition comprises on a dry matter basis, from about 30-50% protein, 25-50% fat, and 10-25% carbohydrates, where the source of protein comprises casein and whey in weight ratio of about 1:1.

USE - (M) is useful for providing nutrition to critical care animals such as dogs and cats (claimed).

ADVANTAGE - The canine or feline milk substitute composition provides high quality nutrient sources, are highly digestible, and provide a relatively high energy density. The milk replacers provide unique amino acid and fatty acid profiles. To determine the effect of milk composition on growth and body composition of puppies, forty colony bred Beagle puppies were randomly assigned to 3 treatments: bitch milk (CTL), milk replacer I (MR-I) (comprising (in percentage) water (80.0), Na/Ca caseinate (5.233), whey protein concentrate (3.491), maltodextrin (2.646), butter oil (2.412), canola oil (1.764), mineral premix1 (1.147), lactose (1.134), corn oil (0.869), dried egg yolk (0.506), emulsifier (0.200), vitamin premix2 (0.128), arachidonic acid supplement (0.100), fructooligosaccharide (0.100), L-histidine HCl (0.090), L-arginine (0.060), choline chloride (0.055), docosahexaenoic acid (DHA) supplement (0.040), and ascorbic acid (0.025)), and milk replacer II (MR-II) comprising 33% protein

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and 40% fat. Milk replacer treatments were subsequently fed to the puppies every 3 hours for days 1-2 and decreased to 4 feedings/day for the remainder of the study (30 days). No differences were detected in intake between the MR puppies, however, puppies fed MR-I had increased average daily weight gain and gain efficiency over MR-II fed puppies, i.e., when the amount of product consumed was measured against the weight gained, MR-I fed puppies had a greater increase in body weight, indicating that the MR-I formulation was better at meeting the growth needs of puppies. The body composition of puppies fed MR-I did not differ from CTL puppies in body fat percentage, but was higher in lean tissue than both CTL and MR-II. Puppies fed MR-II were found to have the highest body fat and lowest lean tissue. These data indicated that the MR-I formulation, which was more similar to batch milk in fatty acid profile and amino acid profile, resulted in enhanced structural tissue growth indicating an improved nutritional status in neonatal puppies.  
Dwg.0/0

L34 ANSWER 9 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN  
ACCESSION NUMBER: 2001-211108 [21] WPIDS  
CROSS REFERENCE: 2000-657793 [64]; 2001-300077 [31]  
DOC. NO. CPI: C2001-062725  
TITLE: Composition for an infant formula which has a low threonine content, an amino acid profile close to that of human milk and a protein concentration equivalent to that of human milk.  
DERWENT CLASS: B04 B05 D13  
INVENTOR(S): BALLEVRE, O; HASCHKE, F; JOST, R; KRATKY, Z;  
KUSLYS, M; MAIRE, J; MEISTER, N; SECRETIN, M  
PATENT ASSIGNEE(S): (NEST) SOC PROD NESTLE SA  
COUNTRY COUNT: 82  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001011990	A1	20010222	(200121)*	EN	23
RW: EA GH GM KE LS MW OA SD SL SZ TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM					
EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ					
LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU					
SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000047535	A	20010313	(200134)		
BR 2000010125	A	20020115	(200214)		
NO 2001005178	A	20011023	(200220)		
NO 2002001333	A	20020514	(200240)		
CN 1358067	A	20020710	(200278)		
AU 765986	B	20031009	(200373)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001011990	A1	WO 2000-EP3887	20000502
AU 2000047535	A	AU 2000-47535	20000502
BR 2000010125	A	BR 2000-10125	20000502
		WO 2000-EP3887	20000502

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NO 2001005178	A	WO 2000-EP3887	20000502
		NO 2001-5178	20011023
NO 2002001333	A	WO 2000-EP8910	20000912
		NO 2002-1333	20020318
CN 1358067	A	CN 2000-809543	20000502
AU 765986	B	AU 2000-47535	20000502

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000047535	A Based on	WO 2001011990
BR 2000010125	A Based on	WO 2001011990
AU 765986	B Previous Publ. Based on	AU 2000047535 WO 2001011990

PRIORITY APPLN. INFO: GB 1999-23048 19990929; EP  
1999-108405 19990429

AN 2001-211108 [21] WPIDS  
CR 2000-657793 [64]; 2001-300077 [31]  
AB WO 200111990 A UPAB: 20031112

NOVELTY - A mixture of (a) acid **whey** protein or sweet **whey** protein from which caseino-glyco-macropeptide has been removed, (b) free **arginine**, (c) free **histidine** and (d) free tyrosine, free tryptophan and/or tryptophan-rich milk protein are used in a composition for an infant formula which has a low **threonine** content.

ACTIVITY - None given.

MECHANISM OF ACTION - None given.

USE - The composition is useful for production of infant formulae which have a low **threonine** content. The formulae produced address the nutritional needs of infants and provide healthy growth of infants.

ADVANTAGE - The composition produces infant formula which has an amino acid profile which is close to that of human milk and a protein concentration equivalent to that of human milk. It does not cause overloading of an infant's metabolism with nitrogen from the infant's protein intake.

Dwg.0/0

L34 ANSWER 10 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN  
ACCESSION NUMBER: 2001-310376 [33] WPIDS  
DOC. NO. CPI: C2001-096180  
TITLE: Bioactive substance in whey protein derived from colostrum of animal which has not been immunized, has rheumatoid arthritis synovial cell growth inhibition effect.  
DERWENT CLASS: B04 D13  
PATENT ASSIGNEE(S): (SHIB-N) SHIBAYAGI KK  
COUNTRY COUNT: 1  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 2001011094	A	20010116	(200133)*		14

Searcher : Shears 571-272-2528

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APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 2001011094	A	JP 1999-224416	19990701

PRIORITY APPLN. INFO: JP 1999-224416 19990701

AN 2001-310376 [33] WPIDS

AB JP2001011094 A UPAB: 20010615

NOVELTY - A bioactive substance in the whey protein component of animal colostrum having molecular weight of 1000-30000, has rheumatoid arthritis synovial cell growth inhibition effect. The colostrum is derived from an animal which has not been immunized.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (i) manufacture of whey protein component of colostrum; and
- (ii) material containing bioactive substance. =

ACTIVITY - Antirheumatic; antiinflammatory.

MECHANISM OF ACTION - Rheumatoid arthritis synovial cell growth inhibitor.

No test details are given in the source material.

USE - For treating and preventing rheumatoid arthritis and inflammation of skin by incorporating in food/beverage products by mixing other drinks such as cow's milk, processed milk, milk drink, fermented milk, lactic acid bacteria drink, condensed milk, dried milk, ice cream, ice candy, juice, chewing gum, lozenges, pudding and in icing on cakes and wafers and also as cosmetics and feed (claimed).

ADVANTAGE - The bioactive substance is prepared easily and efficiently from the colostrum of animal which has not been immunized. The bioactive substance has excellent anti-rheumatoid effect.

Dwg.0/7

L34 ANSWER 11 OF 37 MEDLINE on STN DUPLICATE 1  
ACCESSION NUMBER: 2001163406 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 11263831  
TITLE: True ileal digestibility of amino acids in sow's milk for 17-day-old pigs.  
AUTHOR: Mavromichalis I; Parr T M; Gabert V M; Baker D H  
CORPORATE SOURCE: Department of Animal Sciences, University of Illinois, Urbana 61801, USA..  
imavromichalis@us.ebsworld.com  
SOURCE: Journal of animal science, (2001 Mar) 79 (3) 707-13.  
Journal code: 8003002. ISSN: 0021-8812.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: (EVALUATION STUDIES)  
Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200106  
ENTRY DATE: Entered STN: 20010611  
Last Updated on STN: 20010611  
Entered Medline: 20010607  
AB The digestibility of amino acids in sow's milk consumed by young

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pigs is currently unknown because of difficulties associated with collecting an adequate quantity of milk, and also problems in cannulating suckling pigs. A total of 14 kg of sow's milk was collected, two soluble indigestible markers (Co-EDTA and YbCl<sub>3</sub>) were added, and the milk was fed to four pigs at 17 d of age that were fitted with a simple T-cannula at the terminal ileum. Another four cannulated pigs were offered a similar amount of a 20% DM liquid diet based on enzymatically hydrolyzed casein and lactose to assess endogenous amino acid losses. All pigs were fed about 875 g of each diet per day in 10 hourly meals from 0700 to 1700. Following 2 d of adaptation, ileal digesta were collected from 0800 to 1800 for 2 d. Diets and digesta were analyzed for amino acids using appropriate hydrolysis and preoxidation procedures. Average nitrogen true digestibility was 88%, whereas amino acid true digestibilities ranged from 84% (cystine and **threonine**) to 100% (methionine, **histidine**, and glutamic acid); the average for all amino acids was 92 +/- 4%. Based on average values, true digestibility of essential amino acids was not different from that of nonessential amino acids (P > 0.10). In whole milk, amino acids found in abundance in **whey** proteins (i.e., cystine, glycine, and **threonine**) were less (P < 0.05) digestible than amino acids predominating in casein proteins (i.e., glutamic acid, proline, and methionine). When true ileal digestible amino acid concentrations in sow's milk were expressed as ratios to digestible lysine, it appeared that **threonine**, tryptophan, and **arginine** were lower than what might be considered optimal. In conclusion, amino acids in sow's milk were highly digestible, but most of the amino acids had true ileal digestibility values significantly less than 100%.

L34 ANSWER 12 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN  
DUPLICATE 2

ACCESSION NUMBER: 2000-657793 [64] WPIDS  
CROSS REFERENCE: 2001-211108 [21]; 2001-300077 [31]  
DOC. NO. CPI: C2000-199166  
TITLE: An infant formula containing sweet whey protein from which caseino-glyco-macropetide has been removed, which is low in threonine and high in tryptophan, useful as a pre-term or full-term hypoallergenic formula.  
DERWENT CLASS: B04 B05 D13  
INVENTOR(S): KRATKY, Z; MAIRE, J; BALLEVRE, O; HASCHKE, F; JOST, R; KUSLYS, M; MEISTER, N; SECRETIN, M  
PATENT ASSIGNEE(S): (NEST) SOC PROD NESTLE SA  
COUNTRY COUNT: 27  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 1048226	A1	20001102	(200064)*	EN	9
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
AU 2000047535	A	20010313	(200134)		
ZA 2001008412	A	20030326	(200327)		38

APPLICATION DETAILS:

Searcher : Shears 571-272-2528



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PATENT NO	KIND	APPLICATION	DATE
EP 1048226	A1	EP 1999-108405	19990429
AU 2000047535	A	AU 2000-47535	20000502
ZA 2001008412	A	ZA 2001-8412	20011012

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000047535	A Based on	WO 2001011990

PRIORITY APPLN. INFO: EP 1999-108405 19990429; GB  
1999-23048 19990929

AN 2000-657793 [64] WPIDS  
CR 2001-211108 [21]; 2001-300077 [31]  
AB EP 1048226 A UPAB: 20030429

NOVELTY - An infant formula containing a sweet **whey** fraction that is supplemented with free **arginine**, tyrosine and **histidine**, to create an amino acid profile close to that of human milk

DETAILED DESCRIPTION - An infant formula comprises a lipid source, a carbohydrate source, and a protein source which contains **arginine**, tyrosine, **histidine** and a hydrolyzed sweet **whey** fraction from which caseino-glyco-macropeptide has been removed.

INDEPENDENT CLAIMS are also included for a pre-term infant formula containing these ingredients and including a lipid source which includes medium chain triglycerides. A full-term hypoallergenic infant formula containing the ingredients, but whose carbohydrate source includes lactose is also described. In each case, the hydrolyzed sweet **whey** fractions have a level of lysine blockage less than 10%, and the protein source has a **threonine** content less than 6 g. per 16g N.

USE - The product is useful as a pre-term or full-term hypoallergenic formula

ADVANTAGE - The formula can be prepared in a powdered form having a moisture content less than 5wt%, as a ready to feed liquid formula of solids content 10-14wt%, or as a concentrate of solids content 20-26wt%.

Dwg.0/0

L34 ANSWER 13 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN  
ACCESSION NUMBER: 2000-292965 [25] WPIDS  
CROSS REFERENCE: 2001-388872 [41]; 2002-255591 [30]  
DOC. NO. CPI: C2000-088502  
TITLE: Artificially produced canine milk substitute composition for nursing puppies and critical care canines, includes a predefined amount of protein, fat, and carbohydrates.  
DERWENT CLASS: D13  
INVENTOR(S): LEPINE, A  
PATENT ASSIGNEE(S): (IAMS-N) IAMS CO  
COUNTRY COUNT: 88  
PATENT INFORMATION:

Searcher : Shears 571-272-2528

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PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000018247	A1	20000406	(200025)*	EN	23
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW NL OA PT SD SE SL SZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM					
EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ					
LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD					
SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW					
AU 9960283	A	20000417	(200035)		
EP 1130974	A1	20010912	(200155)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK					
NL PT RO SE SI					
JP 2002525087	W	20020813	(200267)		26
MX 2001002440	A1	20011001	(200274)		
AU 753725	B	20021024	(200277)		
NZ 509776	A	20030725	(200357)		
RU 2218812	C2	20031220	(200413)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000018247	A1	WO 1999-US20469	19990907
AU 9960283	A	AU 1999-60283	19990907
EP 1130974	A1	EP 1999-969649	19990907
		WO 1999-US20469	19990907
JP 2002525087	W	WO 1999-US20469	19990907
		JP 2000-571773	19990907
MX 2001002440	A1	MX 2001-2440	20010308
AU 753725	B	AU 1999-60283	19990907
NZ 509776	A	NZ 1999-509776	19990907
		WO 1999-US20469	19990907
RU 2218812	C2	WO 1999-US20469	19990907
		RU 2001-104337	19990907

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9960283	A Based on	WO 2000018247
EP 1130974	A1 Based on	WO 2000018247
JP 2002525087	W Based on	WO 2000018247
AU 753725	B Previous Publ.	AU 9960283
	Based on	WO 2000018247
NZ 509776	A Based on	WO 2000018247
RU 2218812	C2 Based on	WO 2000018247

PRIORITY APPLN. INFO: US 1998-163778

19980930

AN 2000-292965 [25] WPIDS

CR 2001-388872 [41]; 2002-255591 [30]

AB WO 200018247 A UPAB: 20040223

NOVELTY - Artificially produced canine milk substitute composition comprises, on dry basis, 35-45% protein, 25-35% fat, and 10-25% carbohydrates.

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DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for providing nutrition to a critical care canine, which comprises administering an amount of the invented artificially produced canine milk substitute composition.

USE - For nursing puppies and critical care canines.

ADVANTAGE - The milk substitute is based more closely on the actual concentrations of essential nutrients in bitch milk and supplies the nutritional needs of nursing puppies. The milk replacer provides improved fatty acid and amino acid profiles over currently available bitch milk replacers, and a high quality, highly digestible nutrient source for critical care canines.

Dwg.0/3

L34 ANSWER 14 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN  
ACCESSION NUMBER: 2000-073140 [07] WPIDS  
DOC. NO. CPI: C2000-021134  
TITLE: Milk supplement for increasing piglet growth rates.  
DERWENT CLASS: D13  
INVENTOR(S): HOEY, A; SHARROCK, A G  
PATENT ASSIGNEE(S): (HOEY-N) HOEY PTY LTD JANOS  
COUNTRY COUNT: 1  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
AU 9928131	A	19991125	(200007)*		14

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
AU 9928131	A	AU 1999-28131	19990513

PRIORITY APPLN. INFO: AU 1998-3497 19980513

AN 2000-073140 [07] WPIDS

AB AU 9928131 A UPAB: 20000209

NOVELTY - A milk supplement (X) for increasing piglet growth, comprising a vitamin and mineral premix (I), a sugar, amino acids and milk powder, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(A) a method (Y) of producing (X) comprising mixing (I), a sugar, amino acids and milk powder; and

(B) a method (Z) of increasing piglet weight comprising administering (X).

ACTIVITY - Anabolic.

MECHANISM OF ACTION - Food supplement.

Liquid milk feeding trials by Campbell RG, Pork Journal (1987) (using only cows milk rather than (X)) improved growth rates by 56g to 87g per day during the study to produce weaners up to 1.8 kg heavier than untreated animals at 28 days.

USE - (X) may be used to increase the growth rate and weight of piglets (claimed) (i.e. method (Y)) in the early stages of life (it has been found that weight as a piglet reflects the adult weight and hence the economic value of an animal).

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ADVANTAGE - The use of (X) increases the weight and growth rate of young piglets. This enhancement is carried through into adult hood and increases the slaughter weight of the animals, therefore making them more profitable.

Dwg.0/0

L34 ANSWER 15 OF 37 CABA COPYRIGHT 2004 CABI on STN  
 ACCESSION NUMBER: 1999:71498 CABA  
 DOCUMENT NUMBER: 19990402388  
 TITLE: 15N enrichment of casein amino acids in the milk from goats given a single intravenous dose of L-[15N]leucine  
 AUTHOR: Rubert-Aleman, J.; Rychen, G.; Casseron, F.; Laurent, F.; Martin, G. J.  
 CORPORATE SOURCE: INRA, Ecole Nationale Supérieure d'Agronomie et des Industries Alimentaires, Laboratoire de Sciences Animales, 2 avenue de la Forêt de Haye, BP 172, F-54505 Vandœuvre-les-Nancy Cedex, France.  
 SOURCE: Journal of Dairy Research, (1999) Vol. 66, No. 2, pp. 283-288. 9 ref.  
 ISSN: 0022-0299  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 ENTRY DATE: Entered STN: 19990609  
 Last Updated on STN: 19990609

AB Four Alpine goats in their 4th lactation were fed twice a day to meet their requirements for maintenance and milk production. Goats received a single intravenous injection of L-[15N]leucine (500 mg in 200 ml saline/goat) after morning milking. Goats were milked out at 4-72 h after injection and skim milk samples were processed to separate proteins. At 4 h after injection, a labelling peak was found in skim milk, casein (CN), **whey** protein (WP) and the non-protein fraction (NPF); 15N enrichment was 0.16544, 0.17794, 0.20110 and 0.02994 atom percent enrichment (APE) for the 4 fractions respectively. In samples from subsequent milkings, enrichment level decreased exponentially up to 72 h. Total recovery of 15N in milk during the 72 h was 20% of the initial dose, of this, 79, 16 and 5% respectively was found in CN, WP and NPF. Specific 15N enrichment of individual groups of amino acids (AA) in [15N]CN pooled from the 4 goats at 4, 8 and 12 h after tracer administration was determined. At 4 h, the most enriched fraction (0.50480 APE) was isoleucine-leucine. Asparagine-aspartic acid-**threonine**-serine and glycine-alanine-valine-methionine formed a second category of moderately-enriched fractions, mainly non-essential AA. A final category of poorly-enriched individual AA or groups of AA was composed of the essential AA, tyrosine, phenylalanine, **histidine**-lysine and **arginine**. For 3 fractions the 15N enrichment peak was reached at 8 h: glycine-alanine-valine-methionine, tyrosine and phenylalanine. For all groups studied, enrichment at 12 h was lower than at 4 or 8 h, indicating that labelling occurs during the first hours after a single intravenous dose. It is concluded that the label from L-[15N]leucine is incorporated into non-essential AA (55% of total recovery at 4 h), while the fractions containing essential AA account for only 1.8% of recovery. The mechanisms involved probably included transfer of

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15NH2 from leucine to glutamic acid and the possible use of [15N]glutamic acid for the synthesis of non-essential AA. Results showed the incorporation of leucine N into milk nitrogenous fractions and the transfer of the leucine amino group into other mainly non-essential AA in goat CN.

L34 ANSWER 16 OF 37 CABA COPYRIGHT 2004 CABI on STN

ACCESSION NUMBER: 2000:29052 CABA

DOCUMENT NUMBER: 20001407551

TITLE: Effects of amino acid substitutions for whey protein concentrate on weanling pig performance

AUTHOR: Chung, J.; Carter, S. D.; Whisenhunt, J. C.

SOURCE: Animal Science Research Report - Agricultural Experiment Station, Oklahoma State University, (1999) No. P-973, pp. 266-272. 9 ref.  
Publisher: Animal Science Department, Oklahoma State University. Stillwater

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal

LANGUAGE: English

ENTRY DATE: Entered STN: 20000307

Last Updated on STN: 20000307

AB A total of 120 weanling pigs were allotted randomly to five dietary treatments to evaluate the efficacy of replacing **whey** protein concentrate (WPC) with crystalline amino acids (AA) on growth performance and plasma urea-N. Diet 1 (control) consisted of corn [maize], soyabean meal, dried **whey**, plasma protein (3.5%), blood meal (1.5%), and WPC (9.6%). In diet 2, WPC was replaced with lysine, **threonine**, methionine, isoleucine, tryptophan, and valine on an ideal basis. Diet 3 was as diet 2 with glycine, glutamate, and aspartate (non-essential amino acids, NEAA) added to approximate NEAA:CP ratio in the control diet. Diets 4 and 5 were as diet 3 with additions of tryptophan, phenylalanine, and tyrosine (TPT) or proline, **histidine**, and **arginine** (PHA), respectively, to approximate ratios to lysine in the control diet. Experimental diets were fed during phase 1 (days 0-14), then all pigs were switched to a common phase 2 (1.35% lysine) and 3 (1.15% lysine) diet. Pigs fed the control diet grew faster and were more efficient than pigs fed diet 2. Addition of NEAA, TPT, or PHA to diet 2 did not affect growth performance. Plasma urea-nitrogen (PUN) was markedly lower for pigs fed diet 2 than pigs fed the control diet. Addition of NEAA to diet 2 increased PUN, but the greatest increase in PUN was observed with addition of TPT or PHA to diet 3. Over the entire 42-day period, average daily gain (ADG) and feed conversion efficiency did not differ between pigs fed diets 1 and 2. However, ADG and feed conversion efficiency remained poorer for pigs fed NEAA, TPT, and PHA than in those fed diets 1 and 2 during phase 1. The results suggest that replacement of WPC with an ideal blend of AA reduced pig performance during phase 1 of the nursery period. Addition of NEAA, TPT, or PHA to an ideal blend of AA did not improve growth performance.

L34 ANSWER 17 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER: 1998-130410 [12] WPIDS

CROSS REFERENCE: 2000-096383 [08]; 2001-307596 [31]

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DOC. NO. CPI: C1998-043054  
TITLE: Composition comprises pyruvate and anabolic protein  
- used to increase physical endurance, muscle mass  
or lean body mass or treat catabolic effects of  
disease.  
DERWENT CLASS: B05 D13  
INVENTOR(S): BEALE, P K; NICKEY, D O  
PATENT ASSIGNEE(S): (BEAL-I) BEALE P K  
COUNTRY COUNT: 30  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9804254	A1	19980205	(199812)*	EN	29
RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: AT BG BR CA CH CN CZ DE DK ES FI GB LU MX PL PT RO RU SE SK					
UA					
US 5716926	A	19980210	(199813)		8
US 5889040	A	19990330	(199920)		
EP 914109	A1	19990512	(199923)	EN	
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
CZ 9900249	A3	19990616	(199929)		
BR 9710586	A	20000321	(200028)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9804254	A1	WO 1997-US13162	19970725
US 5716926	A	US 1996-686819	19960726
US 5889040	A Cont of	US 1996-686819	19960726
		US 1997-951547	19971016
EP 914109	A1	EP 1997-938052	19970725
		WO 1997-US13162	19970725
CZ 9900249	A3	WO 1997-US13162	19970725
		CZ 1999-249	19970725
BR 9710586	A	BR 1997-10586	19970725
		WO 1997-US13162	19970725

FILING DETAILS:

PATENT NO	KIND	PATENT NO
US 5889040	A Cont of	US 5716926
EP 914109	A1 Based on	WO 9804254
CZ 9900249	A3 Based on	WO 9804254
BR 9710586	A Based on	WO 9804254

PRIORITY APPLN. INFO: US 1996-686819 19960726; US  
1997-951547 19971016

AN 1998-130410 [12] WPIDS  
CR 2000-096383 [08]; 2001-307596 [31]  
AB WO 9804254 A UPAB: 20010611

Enteral composition (A) comprises pyruvate and an anabolic protein composition. Also claimed are: (B) enhancing physical endurance using (A); (C) increasing the protein concentration, lean body mass

Searcher : Shears 571-272-2528

or muscle mass using pyruvate or (A); (D) treating osteoporosis in humans using calcium pyruvate; (E) an anabolic protein composition comprising (based on the total amino nitrogen: (a) 12-17 weight% glutamic acid; (b) 7-11 weight% lysine and leucine; (c) 5-10 weight% valine, aspartic acid, alanine, **threonine**, serine, proline and phenylalanine; (d) 2-6 weight% **arginine**, isoleucine and glycine; and (e) 0.5-5 weight% tyrosine, **histidine**, tryptophan, cystine and methionine; (F) an anabolic protein composition, comprising: (a) 26.64 weight% **whey** protein concentrate; (b) 20.29 weight% calcium sodium caseinate; (c) 21.01 weight% high protein rice flour; (d) 15.02 weight% meat protein concentrate; (e) 13 weight% egg white solids; (f) 0.36 weight% L-leucine; (g) 2.17 weight% L-lysine; (h) 0.14 weight% L-**arginine**; and (i) 1.27 weight% L-glycine.

USE - (A) is used to ameliorate the effects of physical exertion. (E) is used to treat catabolism caused by aids or cancer (all claimed). The compositions are used to enhance athletic performance and assist catabolic patients (i.e. those suffering from AIDS or cancer) in maintaining weight and preventing further weight loss. They can also reduce deposition of body fat and reduce the catabolic effects of strenuous exercise.

ADVANTAGE - The pyruvate and anabolic protein composition act synergistically.

Dwg.0/0

ABEQ US 5716926 A UPAB: 19980330

Enteral composition (A) comprises pyruvate and an anabolic protein composition. Also claimed are: (B) enhancing physical endurance using (A); (C) increasing the protein concentration, lean body mass or muscle mass using pyruvate or (A); (D) treating osteoporosis in humans using calcium pyruvate; (E) an anabolic protein composition comprising (based on the total amino nitrogen: (a) 12-17 wt.% glutamic acid; (b) 7-11 wt.% lysine and leucine; (c) 5-10 wt.% valine, aspartic acid, alanine, **threonine**, serine, proline and phenylalanine; (d) 2-6 wt.% **arginine**, isoleucine and glycine; and (e) 0.5-5 wt.% tyrosine, **histidine**, tryptophan, cystine and methionine; (F) an anabolic protein composition, comprising: (a) 26.64 wt.% **whey** protein concentrate; (b) 20.29 wt.% calcium sodium caseinate; (c) 21.01 wt.% high protein rice flour; (d) 15.02 wt.% meat protein concentrate; (e) 13 wt.% egg white solids; (f) 0.36 wt.% L-leucine; (g) 2.17 wt.% L-lysine; (h) 0.14 wt.% L-**arginine**; and (i) 1.27 wt.% L-glycine.

USE - (A) is used to ameliorate the effects of physical exertion. (E) is used to treat catabolism caused by aids or cancer (all claimed). The compositions are used to enhance athletic performance and assist catabolic patients (i.e. those suffering from AIDS or cancer) in maintaining weight and preventing further weight loss. They can also reduce deposition of body fat and reduce the catabolic effects of strenuous exercise.

ADVANTAGE - The pyruvate and anabolic protein composition act synergistically.

Dwg.0/0

L34 ANSWER 18 OF 37 MEDLINE on STN  
ACCESSION NUMBER: 97155367 MEDLINE

DUPLICATE 3

Searcher : Shears 571-272-2528

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DOCUMENT NUMBER: PubMed ID: 9002081  
TITLE: Plasma amino acid concentrations in term-born infants fed a whey predominant or a whey hydrolysate formula.  
AUTHOR: Hauser B; Blecker U; Keymolen K; Suys B; Gerlo E; Vandenplas Y  
CORPORATE SOURCE: Department of Pediatrics, Academisch Ziekenhuis Kinderen, Vrije Universiteit Brussel, Belgium.  
SOURCE: JPEN. Journal of parenteral and enteral nutrition, (1997 Jan-Feb) 21 (1) 27-30.  
Journal code: 7804134. ISSN: 0148-6071.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: (CLINICAL TRIAL)  
Journal; Article; (JOURNAL ARTICLE)  
(RANDOMIZED CONTROLLED TRIAL)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199703  
ENTRY DATE: Entered STN: 19970407  
Last Updated on STN: 19980206  
Entered Medline: 19970325

AB BACKGROUND: Hydrolysates are used in the treatment and prevention of cows milk protein allergy. Hydrolysis might alter the plasma level of amino acids. METHODS: Forty-five infants were included in a double-blind prospective study and were randomized in two groups: one receiving a **whey** predominant formula (n = 20) and the second group receiving a **whey** hydrolysate formula (n = 25). Weight and length gain was evaluated up to the age of 13 weeks, when blood was sampled for determination of fasting plasma amino acids. RESULTS: Four infants of the hydrolysate group dropped out because refusal to ingest the formula. Weight and length gain at 13 weeks of age were extremely comparable. Significant differences in plasma concentrations were observed for a number of nonessential and essential amino acids (p = .035 to .0001). **Threonine** and lysine were both higher in the hydrolysate group, and aspartic acid, cystine, methionine, tyrosine, phenylalanine, **histidine**, and **arginine** were lower in the hydrolysate group. CONCLUSIONS: These differences in plasma amino acid levels have to be regarded with care because all concentrations were within normal ranges, with the exception of **threonine**. Weight and length gain of the hydrolysate and the **whey** predominant formula were identical.

L34 ANSWER 19 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN  
ACCESSION NUMBER: 1997-023099 [03] WPIDS  
DOC. NO. CPI: C1997-007487  
TITLE: Enteral compsns. for preventing or treating renal failure - comprising protein source including whey protein and free amino acids, have high caloric density and moderate osmolality.  
DERWENT CLASS: B04 D13  
INVENTOR(S): CHANG, S; MADSEN, D; TRIMBO, S; TUCKER, H N;  
TWYMAN, D; MADSEN, D C; TRIMBO, S L  
PATENT ASSIGNEE(S): (CLIN-N) CLINTEC NUTRITION CO; (NEST) SOC PROD NESTLE; (NEST) SOC PROD NESTLE SA; (CLIN-N) CLINTECH NUTRITION CO; (NEST) NESTEC LTD  
COUNTRY COUNT: 20

Searcher : Shears 571-272-2528



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PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 747395	A1	19961211	(199703)*	EN	8
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU NL PT SE					
JP 09020678	A	19970121	(199713)		7
CA 2177195	A	19961207	(199714)		
US 5728678	A	19980317	(199818)		7
EP 747395	B1	20030502	(200330)	EN	
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU NL PT SE					
DE 69627748	E	20030605	(200345)		
ES 2198459	T3	20040201	(200414)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 747395	A1	EP 1996-201536	19960604
JP 09020678	A	JP 1996-141368	19960604
CA 2177195	A	CA 1996-2177195	19960523
US 5728678	A	US 1995-470985	19950606
EP 747395	B1	EP 1996-201536	19960604
DE 69627748	E	DE 1996-627748	19960604
		EP 1996-201536	19960604
ES 2198459	T3	EP 1996-201536	19960604

FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 69627748	E Based on	EP 747395
ES 2198459	T3 Based on	EP 747395

PRIORITY APPLN. INFO: US 1995-470985 19950606

AN 1997-023099 [03] WPIDS

AB EP 747395 A UPAB: 19970619

Use of a protein source including **whey** protein and free amino acids, opt. with a lipid source (containing medium chain triglycerides (MCT's) and comprising 18-28% of the total caloric content of the compsn.), in an enteral compsn. for preventing or treating renal failure, the compsn. having a caloric density of 1.6-2.25 kcal/ml. Also claimed are compsns. having an amino acid profile comprising L-valine, L-leucine, L-isoleucine, L-**threonine**, L-methionine, L-lysine, L-phenylalanine, L-tryptophan, L-**histidine**, L-**arginine**, L-proline, glycine, L-alanine, L-serine, L-tyrosine, L-cysteine, L-aspartic acid and L-glutamic acid.

USE - The compsns. are useful for treating acute or chronic renal patients requiring a balanced, low-protein diet, and can be used as a supplement or for total enteral nutritional support. Compsns. can be tube-fed or administered as a drink. Daily dosage provides 2000 kcal.

ADVANTAGE - The compsn. is a liquid, which is convenient and easy to use, and has high caloric density with a moderate osmolality. The use of MCT's ensures that the diet can be used in patients with

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concomitant malabsorption syndromes, and they are easily absorbed. The compsn. provides a more calorically dense energy source compared with products comprised of only long chain triglycerides (LCT's).  
Dwg.0/0

ABEQ US 5728678 A UPAB: 19980507

Use of a protein source including **whey** protein and free amino acids, opt. with a lipid source (contg. medium chain triglycerides (MCT's) and comprising 18-28% of the total caloric content of the compsn.), in an enteral compsn. for preventing or treating renal failure, the compsn. having a caloric density of 1.6-2.25 kcal/ml. Also claimed are compsns. having an amino acid profile comprising L-valine, L-leucine, L-isoleucine, L-**threonine**, L-methionine, L-lysine, L-phenylalanine, L-tryptophan, L-**histidine**, L-**arginine**, L-proline, glycine, L-alanine, L-serine, L-tyrosine, L-cysteine, L-aspartic acid and L-glutamic acid.

USE - The compsns. are useful for treating acute or chronic renal patients requiring a balanced, low-protein diet, and can be used as a supplement or for total enteral nutritional support. Compsns. can be tube-fed or administered as a drink. Daily dosage provides 2000 kcal.

ADVANTAGE - The compsn. is a liq., which is convenient and easy to use, and has high caloric density with a moderate osmolality. The use of MCT's ensures that the diet can be used in patients with concomitant malabsorption syndromes, and they are easily absorbed. The compsn. provides a more calorically dense energy source compared with products comprised of only long chain triglycerides (LCT's).  
Dwg.0/0

L34 ANSWER 20 OF 37 MEDLINE on STN DUPLICATE 4  
ACCESSION NUMBER: 92389177 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 1517950  
TITLE: Tryptophan fortification of adapted formula increases plasma tryptophan concentrations to levels not different from those found in breast-fed infants.  
AUTHOR: Fazzolari-Nesci A; Domianello D; Sotera V; Raiha N C  
CORPORATE SOURCE: Department of Obstetrics and Gynecology, University of Palermo, Italy.  
SOURCE: Journal of pediatric gastroenterology and nutrition, (1992 May) 14 (4) 456-9.  
Journal code: 8211545. ISSN: 0277-2116.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: (CLINICAL TRIAL)  
Journal; Article; (JOURNAL ARTICLE)  
(RANDOMIZED CONTROLLED TRIAL)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199210  
ENTRY DATE: Entered STN: 19921023  
Last Updated on STN: 19980206  
Entered Medline: 19921008  
AB Several recent studies have demonstrated significantly lower plasma total tryptophan concentrations in formula-fed than in breast-fed infants. We have measured preprandial plasma amino acid concentrations in infants breast-fed or fed a formula with a protein concentration of 1.57 g/dl and with a **whey**/casein ratio of

Searcher : Shears 571-272-2528

60:40 or a formula with a protein concentration of 1.37 g/dl and a **whey**/casein ratio of 40:60 and fortified with 10 mg/dl (15 mg/100 kcal) of tryptophan. Healthy term infants (10 per group) were either breast-fed from birth or randomly assigned to one of the two study formulas. At 4 and 12 weeks of age, anthropometric measurements were performed and blood samples were obtained. During the study period of 12 weeks, all infants showed normal growth (weight, length, and head circumference) and there were no statistically significant differences between the groups. The plasma concentrations of the essential amino acids phenylalanine, **threonine**, valine, and lysine were significantly lower in the breast-fed group than in both formula-fed groups. For tyrosine, methionine, leucine, **histidine**, isoleucine, and **arginine**, no significant differences could be found between the feeding groups. Concentration of total plasma tryptophan was significantly higher in the breast-fed group than in the group fed the tryptophan-unfortified formula, but no statistically significant difference could be found between the plasma tryptophan concentration in the breast-fed group versus the group fed the tryptophan-fortified formula. The results indicate that tryptophan fortification of adapted formula is necessary to achieve plasma total tryptophan concentrations similar to those found in breast-fed infants. (ABSTRACT TRUNCATED AT 250 WORDS)

L34 ANSWER 21 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN  
 ACCESSION NUMBER: 1992-248278 [30] WPIDS  
 TITLE: Production of bread and rolls - using additive obtd. from albumin milk by neutralising, pasteurising, cooling, adding proto-subtilin preparation, incubating and ultrafiltration.  
 DERWENT CLASS: D11  
 INVENTOR(S): PASHCHENKO, L P; YAKOVLEV, V F  
 PATENT ASSIGNEE(S): (VOTE) VORON TECHN INST  
 COUNTRY COUNT: 1  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
SU 1685353	A1	19911023	(199230)*		6

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
SU 1685353	A1	SU 1989-4733984	19890714

PRIORITY APPLN. INFO: SU 1989-4733984 19890714

AN 1992-248278 [30] WPIDS

AB SU 1685353 A UPAB: 19931006

The method comprises neutralising albumin milk to pH 4.7-5.0, pasteurising, cooling to 38-42 deg.C, introducing a solution of enzyme preparation (protosubtilin) in amount 40-50 protosubtilin units per 1 g of protein of albumin milk. The mixture is left to stand 22-24 hrs. and the hydrolysate is subjected to ultrafiltration at pressure 0.1-0.2 MPa and 38-50 deg.C. Baking additive is obtd. with yield 94-96%. The

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additive is used in amount 20-25 weight% per weight of flour in dough and added together with other recipe components during preparation of dough. This is followed by dividing the dough into articles, leaving to raise and baking. The baking additive has form of transparent yellowish liquid of density 1050 kg/cu.m, and cheese **whey** aroma. It contains 11-15% dry substances, including 6-7% aminoacids and peptides, 3.5-4.0% lactose and 0.7-0.9% of mineral salts. Total content of aminoacids is 10.996-16.003 g/cu.dm (including valine, leucine, isoleucine, proline, phenylalanine, cystine, methionine, tryptophan, **arginine**, **histidine**, lysine, asparagimic acid, glutamic acid, serine, **threonine**, thtyrosine, glycine and alamine).

Tests show that use of the proposed method results in spec. volume of bread 3.44-3.47 cc/g, porosity 82.1-82.7%, form stability 0.60 and content of aminoacids 7099.1-7101.0 g per 100 g of the prod. against 2.83 cc/g, 75.0%, 0.54 and 6924.4 g/100 g for bread made using the known method.

USE/ADVANTAGE - In food industry as a method for bread production  
Improved quality is obtd. Bul.39/23.10.91  
0/0

L34 ANSWER 22 OF 37 MEDLINE on STN DUPLICATE 5  
ACCESSION NUMBER: 88219968 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 3369304  
TITLE: Protein and energy intake during weaning. III.  
Effects on plasma amino acids.  
AUTHOR: Axelsson I; Borulf S; Abildskov K; Heird W; Raiha N  
CORPORATE SOURCE: Department of Paediatrics, University of Lund, Malmo, Sweden.  
SOURCE: Acta paediatrica Scandinavica, (1988 Jan) 77 (1) 42-8.  
Journal code: 0000211. ISSN: 0001-656X.  
PUB. COUNTRY: Sweden  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 198806  
ENTRY DATE: Entered STN: 19900308  
Last Updated on STN: 19970203  
Entered Medline: 19880620

AB Preprandial plasma amino acid concentrations were measured at 5 and 6 months of age in 30 healthy term infants who were either breast-fed ad libitum or fed one of two different formulas (1.9 g of protein per 100 ml with a **whey**:casein ratio of 50:50; 2.9 g of protein per 100 ml with a **whey**:casein ratio of 20:80) ad libitum, plus the same supplementary food regimen. The mean plasma concentrations of total amino acids and especially total essential amino acids were higher in the formula-fed infants. Those fed formula also had plasma concentrations of methionine, isoleucine, phenylalanine, leucine, valine, **threonine**, aspartate, proline, lysine, tyrosine, **histidine** that exceeded plasma concentrations of breast-fed infants by 2 or more standard deviations. Concentrations of **arginine**, glutamic acid, glutamine, ornithine, serine, cystine did not differ and taurine was higher in the breast-fed infants. The data indicate that formulas in common use today during weaning (4-6 months)

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provide excessive protein intakes when compared to the breast-fed control infants. A lowering of protein concentration and a further manipulation of the **whey**:casein ratio is necessary if plasma amino acid patterns similar to those found in breast-fed infants is to be achieved with artificial feeding.

L34 ANSWER 23 OF 37 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

ACCESSION NUMBER: 1988:177250 BIOSIS  
DOCUMENT NUMBER: PREV198885089352; BA85:89352  
TITLE: IN-VITRO DIGESTIBILITY OF THERMALLY PROCESSED  
DIAFILTERED WHEY AS INFLUENCED BY WATER ACTIVITY.  
AUTHOR(S): DESROSIERS T [Reprint author]; BERGERON G; SAVOIE L  
CORPORATE SOURCE: CENT RECHERCHE NUTRITION, FAC SCI AGRIC ET  
ALIMENTATION, UNIV LAVAL, STE-FOY, QUEBEC, CAN G1K  
7P4  
SOURCE: Journal of Dairy Science, (1987) Vol. 70, No. 12, pp.  
2476-2485.  
CODEN: JDSCAE. ISSN: 0022-0302.  
DOCUMENT TYPE: Article  
FILE SEGMENT: BA  
LANGUAGE: ENGLISH  
ENTRY DATE: Entered STN: 11 Apr 1988  
Last Updated on STN: 11 Apr 1988

AB Diafiltered **whey** protein concentrates of varying water activity were heated at 121° C for 83.3 min (5000 s). Nitrogen and amino acid digestibilities were determined by the digestion cell technique. **Whey** nitrogen digestibility significantly decreased only at a water activity of .97. Although this heat treatment did not affect the amino acid profile of the protein, the relative digestibility of most amino acids was slightly increased at a water activity of .3 but relative digestibility decreased at a water activity of .5 and .97. At a water activity of .7, digestibility slightly increased for aspartic acid, **threonine**, glutamic acid, proline, cysteine, isoleucine, **histidine**, and **arginine** and decreased or remained unchanged for the other amino acids. At a water activity of .97, the relative digestibility of aspartic acid, **threonine**, serine, glutamic acid, glycine isoleucine, leucine, and phenylalanine, significantly decreased. Water activity plays a role in the structural organization of heated **whey**, which in turn affects the enzymatic liberation of amino acids.

L34 ANSWER 24 OF 37 MEDLINE on STN DUPLICATE 6

ACCESSION NUMBER: 87225435 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 3495653  
TITLE: Indices of protein metabolism in term infants fed either human milk or formulas with reduced protein concentration and various whey/casein ratios.  
AUTHOR: Janas L M; Picciano M F; Hatch T F  
SOURCE: Journal of pediatrics, (1987 Jun) 110 (6) 838-48.  
Journal code: 0375410. ISSN: 0022-3476.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: (CLINICAL TRIAL)  
(CONTROLLED CLINICAL TRIAL)  
Journal; Article; (JOURNAL ARTICLE)

Searcher : Shears 571-272-2528

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(RANDOMIZED CONTROLLED TRIAL)

LANGUAGE: English  
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals  
ENTRY MONTH: 198707  
ENTRY DATE: Entered STN: 19900305  
Last Updated on STN: 19980206  
Entered Medline: 19870708

AB Hyperaminoacidemia is evident in infants fed either **whey**-dominant or casein-dominant formula containing 2.2 g protein/100 kcal. We assessed protein metabolism in infants fed formulas with reduced protein contents and various **whey**/casein ratios. Term infants (n = 40) received either human milk or formula containing 1.8 g protein/100 kcal and **whey**/casein ratios 18:82, 34:66, or 50:50. At ages 4 and 8 weeks, growth indices and mean serum concentrations of retinol binding protein, albumin, total protein, and serum urea nitrogen were similar, as were mean plasma concentrations of total amino acids, total essential amino acids, and their ratio. Compared with infants fed human milk, those fed formula had plasma concentrations similar for valine, lysine, **arginine**, tyrosine, **histidine**, **threonine**, and free and total cyst(e)ine; elevated for phenylalanine, methionine, and citrulline; and depressed for taurine and tryptophan. Except for leucine, mean plasma amino acid values varied similarly among formula groups despite differences in intakes. Our data indicate that feeding formulas providing 1.8 g protein/100 kcal results in many indices of protein metabolism characteristic of human milk feeding. However, certain differences are noted, suggesting the need for further manipulation of specific amino acid patterns of infant formulas.

L34 ANSWER 25 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN  
ACCESSION NUMBER: 1984-045209 [08] WPIDS  
DOC. NO. CPI: C1984-018996  
TITLE: Nutrient preparation for phenylketonuria suffering infants - contains carbohydrate, fats, vitamin cpds., minerals and protein giving specified aminoacid(s) on hydrolysis.  
DERWENT CLASS: B05 D13  
PATENT ASSIGNEE(S): (MEIP) MEIJI MILK PROD CO LTD  
COUNTRY COUNT: 1  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 59005111	A	19840112	(198408)*		4

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 59005111	A	JP 1982-113850	19820702

PRIORITY APPLN. INFO: JP 1982-113850 19820702  
AN 1984-045209 [08] WPIDS  
AB JP 59005111 A UPAB: 19930925

Searcher : Shears 571-272-2528

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Nutrient preparation for phenylketonuria infant consists of protein (12-15 weight%), carbohydrate (55-70 weight%), fats (15-25 weight%), vitamins

(0.1%), and minerals (2-3 weight%). The protein gives amino acids compsn. as below by hydrolysis. L-phenylalanine 3.50-3.95, L-isoleucine 9.40-10.40, L-leucine 13.00-14.40, L-lysine 11.30-12.60, L-methionine 2.80-3.20, L-threonine 11.70-13.00 L-tryptophan 2.90-3.20, L-valine 8.70-9.65, L-histidine 2.40-2.70, L-arginine 2.90-3.20, L-aspartic acid 14.50-16.20, L-cystine 3.20-3.55, L-glutamic acid 24.20-26.80, L-glycine 2.50-2.80, L-proline 9.70-10.80, L-serine 7.20-8.00, L-tyrosine 4.00-4.40, L-alanine 6.25-7.00/total 100 weight%.

Prior amino acids preps. solution give high osmotic pressure, bad smell and bitterness, and so it is hard to get children to drink it. As the protein in the new preparation pref albumin or milk whey albumin is used. The albumins give preferable amino acids compsn. with reduced pheylalnine by hydrolysis; so further addition of amino acid is not required.

0/0

L34 ANSWER 26 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN  
ACCESSION NUMBER: 1984-026351 [05] WPIDS  
DOC. NO. CPI: C1984-011171  
TITLE: Nutrient preparation for histidinaemia infants - containing milk whey protein as main aminoacid source, added essential aminoacid(s), fat, carbohydrate minerals and vitamin cpds..  
DERWENT CLASS: B05 D13 E19  
PATENT ASSIGNEE(S): (MEIP) MEIJI MILK PROD CO LTD  
COUNTRY COUNT: 1  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 58216122	A	19831215	(198405)*		3

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 58216122	A	JP 1982-98516	19820610

PRIORITY APPLN. INFO: JP 1982-98516 19820610

AN 1984-026351 [05] WPIDS

AB JP 58216122 A UPAB: 19930925

Compsn. consists of N-cpds. of protein sources as below, fats, carbohydrates, minerals, and vitamins:

milk whey-protein 25.0-30.0(weight%); L-phenylalanine 3.0-3.9; L-isoleucine 3.2-4.2; L-tyrosine 4.7-6.2; L-leucine 7.6-10.1; L-threonine 2.5-3.3; L-lysine 6.4-8.5; L-tryptophan 1.6-2.1; L-methionine 2.2-2.9; L-valine 3.9-5.2; L-cystine 2.1-2.8; L-arginine 4.3-5.6; L-alanine 3.1-4.1; L-aspartic acid 3.5-4.7; L-glutamic acid 7.9-10.4; L-glycine 3.7-4.9; L-proline 4.3-5.7; L-serine 2.4-3.1.

Prior preps. have unpleasant smell and bitterness. New preparation

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is easy to drink and contains milk-**whey**-protein as main amino acid source with essential amino acids added. **Histidine** content is relatively low, i.e. 50-100 mg/100g preparation, about 1/5-1.10 that/or prior art.  
0/0

L34 ANSWER 27 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN  
ACCESSION NUMBER: 1984-002988 [01] WPIDS  
DOC. NO. CPI: C1984-001173  
TITLE: Antioxidant obtd. from whey of lactobacillus culture solution - using animal milk medium; used to prevent oxidation of food, cosmetics etc..  
DERWENT CLASS: B05 D13 D16 D21  
PATENT ASSIGNEE(S): (HONS) YAKULT HONSHA KK  
COUNTRY COUNT: 1  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 58198584	A	19831118	(198401)*		4
JP 62045912	B	19870929	(198742)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 58198584	A	JP 1982-81288	19820514

PRIORITY APPLN. INFO: JP 1982-81288 19820514  
AN 1984-002988 [01] WPIDS  
AB JP 58198584 A UPAB: 19930925

New antioxidant (I) is a **whey** (II) separated from a lactobacilliary culture solution using a medium of animal milk. Another new antioxidant (III) is obtd. by removing macromolecular substances with a mol. weight of more than 6000 from (II).

The active ingredient of (I) or (III) (a) is soluble in 90% ethanol; (b), appears in a fraction with a mol. weight of less than 6000 by ultrafiltration; (c), adsorbed to strongly acidic cation exchange resin and eluted with aqueous 2N-ammonia; (d), shows positive ninhydrin reaction, (e), has a maximum absorption spectrum at ca. 275 nm; (f), mol. weight of less than 1000 by gel filtration; (g), is not free amino acids; (h), shows a marked reduction in antioxidative potency under pronase treatment; (i), produces aspartic acid, **threonine**, serine, glutamic acid, proline, glycine, alanine, valine, methionine, isoleucine, leucine, tyrosine, phenylalanine, lysine, **histidine** and **arginine** by acid hydrolysis.

(I) is useful for preventing the deterioration of cosmetics, foods and pharmaceuticals due to their oxidation

L34 ANSWER 28 OF 37 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN  
ACCESSION NUMBER: 1983-811409 [45] WPIDS  
DOC. NO. CPI: C1983-108893  
TITLE: Nutritive compsn. of babies and infants - containing casein, whey, l-isoleucine, l-leucine,



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1-methionine, 1-cystine, 1-phenylalanine,  
1-tyrosine, 1-threonine, tryptophan, 1-valine,  
etc..  
DERWENT CLASS: D13  
PATENT ASSIGNEE(S): (MEIP) MEIJI MILK PROD CO LTD  
COUNTRY COUNT: 1  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 58165742	A	19830930	(198345)*		3
JP 03035896	B	19910529	(199125)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 03035896	B	JP 1982-46275	19820325

PRIORITY APPLN. INFO: JP 1982-46275 19820325

AN 1983-811409 [45] WPIDS

AB JP 58165742 A UPAB: 19930925

Nutritive compsn. contains the nitrogen cpds. on the weight basis of whole nitrogen cpds., as protein source so that the protein content in the nutritive compsn. might be decreased. casein or its salt (as casein protein) 24-32 w/w%, **whey** powder (as milk serum protein) 30-40 w/w%, L-isoleucine 2.2-3.0 w/w%, L-leucine 8.5-11.3 w/w%, L-methionine 0.3-0.4 w/w%, L-cystine 2.4-3.2 w/w%, L-phenylalanine 2.7-3.7 w/w%, L-tyrosine 2.7-3.7 w/w%, L-**threonine** 3.0-4.0 w/w%, L-tryptophan 0.5-0.7 w/w%, L-valine 4.0-5.4 w/w%, L-**arginine** 3.9-5.3 w/w%, L-**histidine** 1.4-2.0 w/w%.

In nutritive compsn. lipid (20-80 w/w%), carbohydrate (40-60 w/w

), minerals (2-3 w/w%), vitamins (ca. 0.1 w/w%), etc. may be combined. Practically the compsn. is suspended 15 w/v% in water and is desirably combined with honey to improve its taste.

Nutritive compsn. can be easily digested and utilised by babies and infants. Nutritive compsn. can be partic. dosed to the babies and infants or urea cycle disorder for decreasing the ammonia concentration in their blood and bone marrow fluid and to those of kidney disorder for supplying essential amino acids with good balance.

L34 ANSWER 29 OF 37 FSTA COPYRIGHT 2004 IFIS on STN

ACCESSION NUMBER: 1979(04):P0655 FSTA

TITLE: [Streptococcus thermophilus-M.sub.7, used for production of cultured milk products and cheeses.]

INVENTOR: Erzinkyan, L. A.; Pakhlevanyan, M. Sh.; Charyan, L. M.; Akopyan, L. G.; Vekilyan, S. M.

PATENT ASSIGNEE: Union of Soviet Socialist Republics Institut Mikrobiologii AN Armyanskoi SSR

SOURCE: USSR Patent, (1978) ref.

PATENT INFORMATION: SU 591508

DOCUMENT TYPE: Patent

Searcher : Shears 571-272-2528

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LANGUAGE: Russian

AB Cell size in a 48-h culture in hydrolysed milk or **whey** agar is (0.4-0.7) x (0.5-0.7)  $\mu\text{m}$ , and the strain is Gram-positive and a facultative anaerobe. Suitable liquid media are milk and **whey**. In hydrolysed milk and **whey** agar, colonies are dull with smooth edges and a diameter of 2.5-6.0  $\mu\text{m}$ . Maximum, min. and optimum growth temperature are 50°, 22-23° and 31-35° C, maximum acid formation being 134° T. On addition of a 1% inoculum, milk is soured in 9 h, forming a dense homogeneous coagulum. The strain ferments glucose, galactose, lactose, sucrose, arabinose, fructose, dextrin and maltose. Proteolytic activity according to accumulation of tyrosine in milk is  $1.8 \times 10^{\text{sup.}} - .\text{sup.}4$  Ansen units. After a culture has grown in milk the following free amino acids are found: cystine, lysine, **histidine**, **arginine**, asparagine, serine, glycine, glutamic acid, **threonine**, alanine, tyrosine, methionine + valine, phenylalanine, leucine + isoleucine, and tryptophan.

L34 ANSWER 30 OF 37 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN DUPLICATE 7

ACCESSION NUMBER: 1977:181613 BIOSIS  
DOCUMENT NUMBER: PREV197764003977; BA64:3977  
TITLE: NUTRITIONAL COMPOSITION OF SWEET TYPE AND ACID TYPE DRY WHEYS PART 1 MAJOR FACTORS INCLUDING AMINO-ACIDS.  
AUTHOR(S): GLASS L; HEDRICK T I  
SOURCE: Journal of Dairy Science, (1977) Vol. 60, No. 2, pp. 185-189.  
CODEN: JDSCAE. ISSN: 0022-0302.  
DOCUMENT TYPE: Article  
FILE SEGMENT: BA  
LANGUAGE: Unavailable

AB At monthly intervals for a year, commercially produced sweet and acid-type dry **whey** samples from 12-15 plants in various geographical areas were analyzed. The means of lactose for sweet and acid-type **wheys** were 69.4 and 63.2%, total protein, 13.0 and 11.7%, nonprotein N .50 and .58%, total ash, 8.3 and 10.6%, fat 1.03 and .48%, moisture 5.0 and 6.2% by toluene method, 3.0 and 3.1 by vacuum oven, 3.7 and 4.6 by Karl Fischer and acidity .10 and .39%. The amino acids means (g/100 g of protein) also, respectively, were lysine 8.8 and 10.3, **histidine** 2.0 and 2.3, **arginine** 2.6 and 2.8, tryptophan 2.4 and 2.4, aspartic acid 10.2 and 10.2, **threonine** 6.8 and 4.9, serine 5.3 and 4.7, glutamic acid 18.0 and 18.4, proline 6.9 and 6.4, glycine 1.9 and 1.7, alanine 4.6 and 4.1, cystine 2.3 and 2.2, valine 5.9 and 5.2, methionine 1.8 and 1.8, isoleucine 5.9 and 5.4, leucine 10.3 and 10.5, tyrosine 2.7 and 3.1 and phenylalanine 3.5 and 3.7.

L34 ANSWER 31 OF 37 FSTA COPYRIGHT 2004 IFIS on STN

ACCESSION NUMBER: 1977(01):P0173 FSTA  
TITLE: [Effect of heat-induced milk protein complexes on amino acid liberation from casein subjected to chymosin, pepsin or Pronase action.]  
AUTHOR: Damicz, W.; Smoczynska, K.  
CORPORATE SOURCE: Inst. Fizyki i Chemii Zywnosci, ART, Olsztyn, Poland

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SOURCE: Zeszyty Naukowe Akademii Rolniczo-Technicznej w Olsztynie, (1976) No. 151 (Technologia Zywnosci 8) 71-80, 19 ref.

DOCUMENT TYPE: Journal

LANGUAGE: Polish

SUMMARY LANGUAGE: Russian; English

AB Casein + **whey** protein substrates were heat treated and incubated with enzymes as described in the preceding abstract, but incubation was for 0.5, 12 or 24 h. The free amino acids extracted from the incubates by the method of Kosikowsky [Journal of Dairy Science (1951) 34 (3) 235] were determined by electrophoresis and paper chromatography, and contents of non-protein N compounds were measured. The results are tabulated. Pepsin liberation of methionine, phenylalanine, leucine + isoleucine, valine and tyrosine was completely inhibited in heat-treated substrates, but **arginine**, lysine, glutamic acid and **histidine** were liberated after incubation for 12 or 24 h; all 10 amino acids mentioned above were liberated from unheated substrates. Pronase liberated at all stages of incubation all these amino acids and also serine, **threonine**, alanine, proline and glycine, heat treatment at pH 6.5 exerting a stimulatory effect. Chymosin, irrespective of treatment conditions, did not degrade casein to free amino acids.

L34 ANSWER 32 OF 37 CABA COPYRIGHT 2004 CABI on STN

ACCESSION NUMBER: 77:17728 CABA

DOCUMENT NUMBER: 19760429297

TITLE: Effect of heat-induced milk protein complexes on amino acid liberation from casein subjected to chymosin, pepsin or Pronase action

AUTHOR: Damicz, W.; Smoczynska, K.

CORPORATE SOURCE: Inst. Fizyki i Chemii Zywnosci, ART, Olsztyn, Poland.

SOURCE: Zeszyty Naukowe Akademii Rolniczo-Technicznej w Olsztynie, (1976) No. 151, Technologia Zywnosci 8, pp. 71-80. 19 ref.

Meeting Info.: Smoczynska, K.; Damicz, W.; Kostyra, H. : Effect of heat-induced milk protein complexes on glycopeptide liberation from casein subjected to enzymic hydrolysis.

DOCUMENT TYPE: Journal

LANGUAGE: Polish

SUMMARY LANGUAGE: Russian; English

ENTRY DATE: Entered STN: 19941101

Last Updated on STN: 19941101

AB Casein + **whey** protein substrates were heat treated and incubated with enzymes as described in the preceding abstract, but incubation was for 0.5, 12 or 24 h. The free amino acids extracted from the incubates by the method of Kosikowsky [DSA 14, 210] were determined by electrophoresis and paper chromatography, and contents of non-protein N compounds were measured. The results are tabulated. Pepsin liberation of methionine, phenylalanine, leucine + isoleucine, valine and tyrosine was completely inhibited in heat-treated substrates, but **arginine**, lysine, glutamic acid and **histidine** were liberated after incubation for 12 or 24 h; all 10 amino acids mentioned above were liberated from

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unheated substrates. Pronase liberated at all stages of incubation all these amino acids and also serine, **threonine**, alanine, proline and glycine, heat treatment at pH 6.5 exerting a stimulatory effect. Chymosin, irrespective of treatment conditions, did not degrade casein to free amino acids.

L34 ANSWER 33 OF 37 CABA COPYRIGHT 2004 CABI on STN

ACCESSION NUMBER: 76:68169 CABA

DOCUMENT NUMBER: 19751427990

TITLE: Effect of the type of nitrogenous substances in milk replacers on amino acids in blood of preruminant calves. 1. Nitrogenous substances in milk, whey, fish and alkane yeasts  
Influence de la nature des matieres azotees des aliments d'allaitement sur l'acidoaminoacidemie du veau preruminant. 1. Matieres azotees du lait, du lactoserum, du poisson et des levures d'alcanes

AUTHOR: Patureau-Mirand, P.; Toullec, R.; Paruelle, J. L.; Prugnaud, J.; Pion, R.

CORPORATE SOURCE: Lab. Etude du Metabolisme Azote, Centre de Recherches de Clermont-Ferrand, INRA, Theix, 63110 Beaumont, France.

SOURCE: Annales de Zootechnie, (1974) Vol. 23, No. 3, pp. 343-358.

ISSN: 0003-424X

DOCUMENT TYPE: Journal

LANGUAGE: French

SUMMARY LANGUAGE: English

ENTRY DATE: Entered STN: 19941101

Last Updated on STN: 19941101

AB 1. Five milk replacers with proteins of known amino acid composition were given to calves in 3 experiments and blood was sampled from the jugular vein 4 or 5 h after the morning feed. Concentrations of free amino acids and urea in blood were estimated. The 5 diets had the following proteins: spray-dried milk only; spray-dried milk with a little spray-dried **whey** and soya bean oilmeal; delactosed **whey** powder prepared by ultrafiltration; 68% of the protein from a concentrate prepared by enzymic hydrolysis of white fish and the rest from spray-dried **whey**; half from yeast grown on hydrocarbons (alkanes) and the rest spray-dried milk and **whey**. **Whey** proteins were rich in **threonine** and tryptophan and low in methionine, phenylalanine, tyrosine and **histidine**. When prepared by ultrafiltration 58.5% of the N was as essential amino acids, particularly high in **threonine**, isoleucine, cystine and lysine. Fish proteins had only 37.3% of their N as essential amino acids and were low in tryptophan. Amino acid composition of alkane yeasts resembled that of **whey** proteins and was rich in **arginine** and phenylalanine and poor in tryptophan. Blood urea was low and constant at 16 mg/100 ml blood in young animals eating 12 to 13 g N/kg W0.75 daily with any type of protein. With increasing N intake urea increased when milk proteins were given. Free essential amino acids in blood depended on the amounts consumed and remained low when daily intakes were less than 0.8 g **threonine**, 0.9 g valine, 0.85 g isoleucine, 0.6 g **arginine** and 1.3 g leucine or lysine/kg W0.75. With

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greater intakes than these free amino acids accumulated in blood, indicating that supply was more than utilisation. Free lysine and **threonine** in blood were more in calves given fish concentrate than milk powder although intakes of these amino acids were similar. **Arginine** was high in calves given **whey** proteins. Changes in levels of certain nonessential amino acids such as alanine, serine and glycine seemed similar to those found with most essential amino acids, while for protein variations were peculiar to the individual protein source. Unlike urea, ornithine and citrulline were low in calves given milk.

L34 ANSWER 34 OF 37 FSTA COPYRIGHT 2004 IFIS on STN DUPLICATE 8  
ACCESSION NUMBER: 1974(10):P1493 FSTA  
TITLE: [Establishment of suitable technological parameters for production of high-protein Kachkaval cheese from cows' and ewes' milk.]  
AUTHOR: Prodanski, P.; Simov, Zh.  
SOURCE: Khranitelna Promishlenost, (1974) 23 (1) 12-14, 9 ref.  
DOCUMENT TYPE: Journal  
LANGUAGE: Bulgarian  
SUMMARY LANGUAGE: Russian; German; English  
AB In experiments to determine the optimum technology for production of high-protein Kachkaval cheese from cows' and ewes' milk, good results were achieved by adding 1% protein from cows' skim-milk, 0.5% protein from buttermilk or 0.3% protein from **whey**. The added proteins increased the water content and protein content of the ripe cheese, the maximum % of total N being 4.54 in 3-month-old cows' milk Kachkaval with 1% added skim-milk protein (vs. 3.85% total N in controls without added protein). The increased protein content resulted in faster ripening and better flavour. Flavour was also affected by the increases in certain free amino acids ( **arginine**, cystine and phenylalanine in the case of added skim-milk protein, and lysine, **histidine**, **arginine** , aspartic acid, **threonine**, serine, glycine, tyrosine and phenylalanine in the case of buttermilk and **whey** protein). Some volatile fatty acids also showed increases. [See also FSTA (1974) 6 5P743, 5P744.].

L34 ANSWER 35 OF 37 CABA COPYRIGHT 2004 CABI on STN  
ACCESSION NUMBER: 79:17749 CABA  
DOCUMENT NUMBER: 19780447012  
TITLE: Streptococcus thermophilus-M7, used for production of cultured milk products and cheeses  
AUTHOR: Erzinkyan, L. A.; Pakhlevanyan, M. Sh.; Charyan, L. M.; Akopyan, L. G.; Vekilyan, S. M.  
CORPORATE SOURCE: USSR, Institut Mikrobiologii AN Armyanskoi SSR  
PATENT INFORMATION: 19780000  
SOURCE: USSR Patent, .  
DOCUMENT TYPE: Patent  
LANGUAGE: Russian  
ENTRY DATE: Entered STN: 19941101  
Last Updated on STN: 19941101  
AB The strain is stored in the Armenian SSR Academy of Sciences,

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Institute of Microbiology Laboratory for Fermentation  
Microorganisms. Cell size in a 48-h culture in hydrolysed milk or **whey** agar is (0.4-0.7) X (0.5-0.7)  $\mu$  m, and the strain is Gram-positive and a facultative anaerobe. Suitable liquid media are milk and **whey**. In hydrolysed milk and **whey** agar, colonies are dull with smooth edges and a diameter of 2.5-6.0  $\mu$  m. Maximum, min. and optimum growth temperature are 50, 22-23 and 31-35 deg C, maximum acid formation being 134 deg T. On addition of a 1% inoculum, milk is soured in 9 h, forming a dense homogeneous coagulum. The strain ferments glucose, galactose, lactose, sucrose, arabinose, fructose, dextrin and maltose. Proteolytic activity according to accumulation of tyrosine in milk is  $1.8 \times 10^{-4}$  Ansen units. After a culture has grown in milk the following free amino-acids are found: cystine, lysine, **histidine**, **arginine**, asparagine, serine, glycine, glutamic acid, **threonine**, alanine, tyrosine, methionine + valine, phenylalanine, leucine + isoleucine, and tryptophan.

L34 ANSWER 36 OF 37 FROSTI COPYRIGHT 2004 LFRA on STN

ACCESSION NUMBER: 539743 FROSTI  
TITLE: Infant formula containing sweet whey protein.  
INVENTOR: Kratky Z.; Maire J.-C.  
PATENT ASSIGNEE: Societe des Produits Nestle SA  
SOURCE: European Patent Application  
PATENT INFORMATION: EP 1048226 A1  
APPLICATION INFORMATION: 19990429  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AB An artificial formula for infant feeding is described that contains a hydrolysed **whey** protein fraction. Casein glycomacropeptide is removed from the **whey** fraction before incorporation. The composition contains **arginine**, tyrosine, and **histidine** as free amino acids, and is high in tryptophan and low in **threonine**. It may be used for premature babies or as a hypoallergenic formula. Lactose is used as the sole or main carbohydrate source. Acid **whey** protein is preferred to sweet **whey** protein, as the **threonine** level is closer to that of human (breast) milk.

L34 ANSWER 37 OF 37 FROSTI COPYRIGHT 2004 LFRA on STN

ACCESSION NUMBER: 550096 FROSTI  
TITLE: Composition for an infant formula having a low threonine content.  
INVENTOR: Kratky Z.; Maire J.-C.; Ballevre O.; Haschke F.; Jost R.; Kuslys M.; Meister N.; Secretin M.-C.  
PATENT ASSIGNEE: Societe des Produits Nestle SA  
SOURCE: PCT Patent Application  
PATENT INFORMATION: WO 2001011990 A1  
APPLICATION INFORMATION: 20000502  
PRIORITY INFORMATION: European Patent Office 19990429  
United Kingdom 19990929  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AB An infant formula composition with a low **threonine**

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content is described. The composition contains acid or sweet **whey** protein from which caseino-glyco-macropeptide has been removed, free **arginine**, free **histidine**, and free tyrosine or tryptophan or a milk protein rich in tryptophan, or a mixture of these. The protein concentration in the formula is equivalent to that of human milk. The composition has a good amino acid profile. The formula may also contain lipids such as medium-chain triglycerides, and carbohydrates such as lactose. The composition may be used as a medicament or nutritional product to ensure the healthy growth of the infant.

(FILE 'MEDLINE' ENTERED AT 12:17:24 ON 27 APR 2004)

L35	5509	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	THREONINE/CT
L36	25330	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	ARGININE/CT
L37	403	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	L35 AND L36
L38	12819	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	HISTIDINE/CT
L39	162	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	L37 AND L38
L40	4627	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	"MILK PROTEINS"/CT
L41	0	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	L39 AND L40

L35	5509	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	THREONINE/CT
L36	25330	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	ARGININE/CT
L37	403	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	L35 AND L36
L38	12819	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	HISTIDINE/CT
L39	162	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	L37 AND L38
L42	71	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	"INFANT FORMULA"/CT
L43	0	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	L39 AND L42

=> fil hom

FILE 'HOME' ENTERED AT 12:20:14 ON 27 APR 2004